



786

THE NEW DAM, HOLYOKE, MASS.

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HAMPDEN COUNTY REGISTRY OF DEEDS

DAMS FILE COLLECTION

BOOK D10

CITY OF HOLYOKE, MASSACHUSETTS



*Donald E. Ashe, Register
Hampden County Registry of Deeds,
a Division of the Office of
William Francis Galvin, Secretary of the Commonwealth*

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o Holyoke

Also See: Dam Report Section - Holyoke & Holyoke Water Works Deeds. See also: County Highways (Holyoke) - "Ashley Pond Dam" - ch02078 & "High Service Reservoir Dam" - ch04001.

City/Town	Holyoke
Dam	Ashley Pond Dam

HOLYOKE
D10001

ASHLEY POND DAM

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

State Reservation Dam aka Bray Lake Dam aka Bray Pond Dam



1970 Holyoke

Dam located at Bray Lake in the Mount Tom Reservation area. See also: Dams Report Section - Holyoke Water Works Deeds.

Abutters	Mount Tom Reservation
City/Town	Holyoke
Dam	Bray Pond Dam
Dam	State Reservation Dam
Dam	Bray Lake Dam
Name	Massachusetts Comm Public Works
Water	Bray Lake

February 3, 1926

Mr. N. Seelye Hitchcock, Chairman,
Mt. Tom State Reservation Commission,
Court House,
Northampton, Mass.

Dear Sir:

In accordance with the provisions of Section 45 of Chapter 253 of the General Laws as amended by Chapter 334 of the Acts of 1923 and as further amended by Chapter 178 of the Acts of 1924 relative to the inspection, condition and safety of the dams of Hampden County, you are notified that the State Reservation Dam (Bray Lake) has been inspected by our engineer and your attention is called to the following recommendations made by him:

"About one-half mile upstream from the Kennedy dam, and three-quarters of a mile northwest of Smith Ferry, at a point where the drainage area contributory is one and one-half square miles, is a dam on the State Reservation which forms Bray Lake.

This structure is an earthen embankment four hundred and sixty feet in length and nine feet in height. Its top is eighteen feet in width and used as a roadway. The overflow, which is located one hundred and thirty-two feet from the north end of the dam, is twelve feet in length, and its crest five feet below the top of the embankment.

The retaining walls of the overflow are in poor condition, being cracked, and with the north wall falling in. It is recommended that these retaining walls be repaired.

Now, therefore, in accordance with Section 46 of said Chapter 253, it is ordered that the above recommendations be complied with in a reasonable time.

Yours very truly,
COUNTY COMMISSIONERS

Chairman.

Bray Pond Dam

The Bray Pond dam located in the Reservation is found to have some undercutting of the concrete end wall at the base of the spillway pipes. This undercut is not serious but it should receive attention during 1955 to prevent the condition from becoming more serious. The necessary repairs are very minor from a man hour and dollar viewpoint and could probably be included in the regular maintenance work for 1955.

The above copied from letter dated Dec. 31, 1954 to The Honorable the Board of County Commissioners from George H. McDonnell, County Hydraulic Engineer.

January 5, 1955

Board of Water Commissioners
City Hall
Holyoke, Massachusetts

Gentlemen:

In accordance with the provisions of Chapter 253, Section 45 et seq. of the General Laws, Tercentenary Edition, relative to the inspection, condition and safety of the dams of Hampden County, you are hereby advised that your Bray Reservoir dam, located off of Route 202, near Ashley Ponds, has been recently inspected by our Engineer, and your attention is called to the following conditions noted and recommendations made by him:

"Scrub growth and wildbrush growing on the surface of this earth filled dam should be cut down and cleared from the structure. This is not of an emergency nature but should be included in the maintenance program of 1955.

Any further information concerning this matter which you may desire will be furnished by this office upon request.

Very truly yours

COUNTY COMMISSIONERS

By _____
Chairman

COPY

COD

November 9, 1955

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Mass.

Gentlemen:

On Monday, November 7th, the undersigned met with Mr. Scott and another representative of the Department of Public Works of the Commonwealth of Massachusetts, relative to the repairs to the road and dam at Bray Lake in the Mount Tom Reservation area.

Mr. Scott had prepared preliminary sketches of a proposed spillway for Bray Pond and for repairs to the road forming the dam. We discussed the design, construction methods, and the specifications for the earth fill in the dam and for the repair of the wooden core. Following the conference, we were all in agreement on the work to be done, and according to the schedule as proposed by Mr. Scott, it is expected that the project will be forwarded to Boston by Wednesday night, November 9th, for review and consideration by the Boston officials.

Knowing that you are anxious to at least repair the road immediately and to have the spillway completed shortly thereafter, so that the access road to the Reservation will be available for late fall use and the Pond in the Reservation will be available for winter use, it is suggested that on or after Thursday, November 10th, a request be placed with the Boston officials to expedite their part in the work.

Very truly yours,

GHM/emm

George H. McDonnell
County Hydraulic Engineer

December 28, 1955

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Mass.

Gentlemen:

In accordance with your request, I have discussed conditions at Bray Lake in the Mount Tom State Reservation with Stanley Haber of the Haber Sand & Gravel Company, low bidder on the work of repairing the roadway and dam at the said Bray Lake. As of this date, Mr. Haber still does not have a contract for the construction of the dam and roadway. He is low bidder on the work and expects that shortly he will be notified of an award of the contract.

In regard to skating at the Lake, Mr. Haber feels that any skating provided for could be detrimental to him in the conduct of his work. He agrees that a low sand bag dam could be built upstream from the area in which the new work will be constructed. However, it is the feeling of Mr. Haber that the construction of a temporary small dam upstream of his work area will not be too detrimental to him but that the traffic caused by skaters going to and from the improvised skating area, both on foot and in vehicles, will cause a slow-down of his work, particularly the movement of his trucks, cranes and other equipment. He claims that he has planned his work so that there will be no obstacle in his way insofar as traffic is concerned.

Perhaps this traffic problem could be solved by signs and by special personnel assigned to traffic duty in the vicinity of the construction area during construction hours. I believe that if the traffic problem can be properly controlled, Mr. Haber would not seriously object to the temporary construction of a small skating area. If it is agreeable with your Board to provide whatever personnel will be necessary to keep vehicles and persons out of the way of the Contractor, I would think that your Reservation personnel might construct a small sand-bagged dam upstream of the work area and that by ponding two or three feet of water, a sufficiently large skating area could be provided to satisfy the needs of a reasonably large group of persons.

Very truly yours,

by

GHM/emm

George H. McDonnell
County Hydraulic Engineer

COPY

CD Holyoke
May 31, 1956

Commonwealth of Massachusetts
Department of Public Works
Waterways Division
100 Nashua Street
Boston, Mass.

Gentlemen:

The dam at Bray Pond in the Mt. Tom Reservation in Holyoke will probably be repaired shortly and it is my understanding that this work is to be done by private contractors in accordance with plans and specifications prepared by the Department of Public Works. I presume that your Division has probably worked upon this project. Since the dam is located within Hampden County, it is desirable that a set of the plans and specifications be on file at the County Commissioners' office and be available for use by the undersigned.

Will you kindly send the undersigned a copy of these plans and specifications. If you do not have a set or if they are available elsewhere, will you kindly let me know what office I should write to in order to obtain them.

Very truly yours,

COPY

George H. McDonnell
County Hydraulic Engineer

GHM/r

COPY

CD Holyoke

July 13, 1956

Haber Sand & Gravel Co.,
Ferry Street
South Hadley, Mass.

Gentlemen:

It is my understanding that you are the Contractor for the repair and reconstruction of the Bray Dam at Mt. Tom State Reservation, in Holyoke.

I inspected the site of the work today and found that no work was progressing on the repair of the dam. I believe that you intend to begin work in the very near future and wish to call your attention to the fact that the workmanship on this dam must meet the requirements of the County Commissioners of Hampden County.

The undersigned, as County Hydraulic Engineer, will inspect your work from time to time and will be available for conferences with you as necessary, with the exception of the period from July 14th thru July 29th, when I will be on vacation. If you plan to begin construction work between now and July 29th, kindly notify this office, particularly Mr. Sheridan so that inspection of your work may be planned.

If your work will not start until after July 30th then I will arrange to meet you at the site, when you notify me that work on the project will be started.

Very truly yours

GHM/cmb

COPY

George H. McDonnell
County Hydraulic Engineer

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

TIGHE & BOND, INC.
CONSULTING ENGINEERS
-----189 HIGH STREET-----
HOLYOKE, MASSACHUSETTS
GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

—————> NOTE: OUR NEW ADDRESS <—————
BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS

CD-Holyoke

July 13, 1956


The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

As of this date no work has been started
on the repair to the Bray Pond Dam at Mt. Tom State
Reservation.

I have sent a letter to Haber Sand & Gravel
Company relative to their work on this structure. A
copy of this letter is enclosed herewith for your file
and information purposes. This letter is self explana-
tory.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

CD Holyoke

Aug. 13, 1956

The Hon. the Board of County Commissioners
Hampden County Court House
Elm St.
Springfield, Mass.

Gentlemen:

During the past week I have kept in touch with the progress being made on the reconstruction of Bray Pond Dam in the Mt. Tom Reservation. Work is progressing satisfactorily and I have discussed various phases of the work from time to time with the Contractor, his personnel and the inspector on the job for the Department of Public Works.

The quality of the work is such that the work completed to date is satisfactory and of good workmanship.

Very truly yours,

George H. McDonnell
County Hydraulic Engineer

GHH/mdb

CD-Holyoke

Dec. 4, 1956

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

I have inspected the dam at Bray Lake, at the Mt. Tom Reservation and note that there is settlement on the dam in the vicinity of the new spillway tube. The surface of the roadway is settling and the asphaltic concrete surface has cracked. When the dam was last inspected, on Nov. 17, 1956, there was no settlement apparent. At that time the pond had only started to fill and the depth of water was but a very few feet. When inspected today the pond was full to the spillway level. It is possible that the Contractor in constructing the embankment did not thoroughly compact the fill in this location. The saturation of the soil may have resulted in a movement of the soil particles and the settlement of the fill.

I did not observe the new conduit to determine if there is any apparent movement of this tube that might have contributed to the settlement. In any event, it would seem advisable to notify the Department of Public Works of the settlement. This condition will be inspected by the undersigned, from time to time. Following the Winter months a permanent repair can be made to the fill and the sunken roadway pavement. In the meantime temporary repairs should be made and remade as necessary during the Winter depending upon continuation of the settlement.

The crest or top of the new spillway shaft is at approximately the same grade as the invert of the old spillway tubes. In my opinion this is the proper grade for the establishment of the new spillway crest.

The pond level, at the present time, is at normal Winter level, based upon past experience. I checked this fact with Mr. Knox, Superintendent of the Reservation.

In the Summertime it has been customary to raise the level of the pond by placing boards in front of the old tube spillway and installing a screen on top of the boards. The Superintendent informed me that ordinarily the boards placed were 10-inches, more or less, in height. An examination of the present structure as compared to evidence of normal high water shoreline shows a variation of from about one foot to eighteen inches.

In the Springtime when fish are placed in the Lake, the flashboards can be replaced in front of the old tube spillway and a simple flashboard arrangement can be installed on the new shaft spillway. This flashboard arrangement should be such that it will fail in time of high water and it can be removed easily by Reservation personnel upon warning of possible major storms.

It is not recommended that the vertical shaft be raised with masonry. Such a procedure would defeat the purpose of providing sufficient freeboard to properly protect Lake Bray dam.

It would be possible to install one foot or even two feet of flashboards at the new spillway this coming Spring. These boards can be made and installed by Reservation personnel.

In regard to the coarse rack on the surface of the vertical shaft, I don't recommend that this rack be altered in any way by the installation of fine mesh screen or grill work. This spillway shaft should be maintained with openings as large as possible to prevent the plugging of the shaft by flood washed debris. In fact, in time of storm warning the movable sections should probably be removed from the top of the vertical shaft to provide a free and unobstructive opening for the flood water.

In regard to access at the gate operating mechanism, this gate will probably only be operated on very rare occasions, probably not more than once or twice a year, if then. The operating personnel can very easily lay a plank across the spillway rack to provide a safe walkway for gate access. This plank would be removed after operating the gate. Such a procedure results in far greater safety to the dam and a minimum amount of extra work by the Reservation personnel.

In the Springtime when the flashboards are to be installed I would be pleased to instruct Reservation personnel on a simple, economical and quickly attached flashboard. Bray Lake can then be returned to its normal Summer elevation each and every Spring and drawn down to its basic elevation each Fall for skating purposes.

As of the present day, the undersigned still has not received plans of the dam repairs and new spillway at Bray Lake.

Respectfully submitted

George H. McDonnell
County Hydraulic Engineer

GHM/omb

COPY

CD Holyoke

Jan. 28, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
37 Elm Street
Springfield, Massachusetts

Gentlemen:

Reference is made to the dam and road fill at Bray Lake in the Mt. Tom Reservation. On Wednesday, Jan. 23, 1957, the undersigned was notified that leakage was taking place thru the embankment in the vicinity of the new culvert overflow. At the time the call came into my office I was in the field on other work and Mr. Sheridan immediately went to the reservation. He noted that water was emerging under pressure at a number of locations from the face of the embankment on the downstream side near the conduit. The drain-gates were opened at the pond and the water level in Bray Lake lowered.

The undersigned arrived at Bray Lake shortly after receiving notice of the condition. This was at about 5 p.m. No water was emerging from the downstream face of the embankment, but the pond had been lowered approximately a foot below the spillway crest. Gates were still open and water was discharging, lowering the level of the pond. A careful examination at the face of the dam on the downstream side showed no movement of water thru the material of the fill or out thru the riprap paving.

It was apparent that the leakage thru the embankment was originating at a high level on the upstream side and that by lowering the water, leakage thru the embankment was stopped.

On the day the leakage was first noticed, that is, on Wednesday, Jan. 23, 1957, a typical January thaw was occurring and high run-off was taking place from melting snows on the drainage area. This run-off raised the level of the lake above the crest of the spillway. The spillway was functioning normally and passing off the high rate of run-off. However, the raised lake level, coupled with thawing of frost

COPY

The Hon. the Board of County Commissioners
Springfield, Mass.

CD Holyoke
Jan. 28, 1957

on the embankment probably contributed to the leakage as it was noted to occur.

After examining the dam embankment and noting that no leakage was taking place with the water drawn down below the crest of the spillway, Mr. Knox of the Reservation personnel was told that the draw-down gate could be partly closed for the night to prevent a further draw-down of the lake level. During the daylight hours of the following day, the valve was closed and the pond allowed to re-fill.

Since the lowering of the pond had caused considerable disturbance to the ice on the pond, it was thought advisable not to raise the pond level too far in order to prevent too much damage to the ice and thus perhaps spoil the winter skating. Consequently, the level of water in the lake since Jan. 24th has been held just below the crest of the spillway by operating the draw-down gate and varying the amount of opening depending upon the quantity of water running into the lake from the brook. No leakage has reappeared and in the opinion of the undersigned, the structure is safe as it now exists provided the water level is not raised above the spillway crest.

Present conditions at Bray Lake can be maintained throughout the remainder of the skating season. However, upon termination of the skating season, the pond should be drawn down sufficiently to allow for an investigation of the embankment for the purpose of determining why seepage did occur when the water in the lake was above spillway crest level.

In the early part of December, and the latter part of November, settlement of the embankment of the dam took place in the vicinity of the spillway tube. This condition was noted in our report of Dec. 4, 1956. Further to the west and on the downstream side of the embankment the road paving has cracked and there has been movement of the embankment in this area. Both of these conditions indicate that the embankment material has moved slightly and that corrective action must be taken as soon as winter conditions pass.

It would seem advisable to notify the Dept. of Public Works of the Commonwealth of Massachusetts regarding this condition and to request them to take the necessary action to correct conditions at the dam. Also, an investigation should be made as soon as possible as to the reason for leakage thru the embankment at a high level in the vicinity of the spillway tube.

The undersigned would be pleased to work in co-operation with the engineers of the Dept. of Public Works in investi-

The Hon. the Board of County Commissioners
Springfield, Mass.

CD Holyoke
Jan.25, 1957

gating the reason for the condition as outlined herein and in arriving at a satisfactory solution.

Downstream of the spillway tube, it can be noted that the brook channel is being eaten away on the right side, just below the end of the riprap paving. This condition was anticipated and the possibility of its occurrence pointed out in previous communications. It would be advisable for the Dept. of Public Works to extend the riprap paving of the channel further downstream to include the entire bend to the left in the stream-bed and to continue the paving beyond the bend far enough to guarantee that erosion of the stream banks and bottom will not take place during the high rate discharge from Bray Lake.

Conditions at Bray Dam have been inspected daily since Wednesday, Jan. 23, 1957. On Sunday, Jan. 27, 1957, it was noted that the grout in the riprap downstream of the spillway tube has either been poorly placed or voids are being washed underneath the riprap paving. Small holes noted in the concrete paving between the stones of the riprap were investigated and it was found that these small holes lead into large cavities. This paving should be investigated and if the paving is being undermined, the flow of water causing the undermining should be controlled. If the grout is not properly placed between the stones of the riprap, then the grout should be broken out and replaced properly so that the stones of the riprap are bound together with a thick and substantial layer of cement grout.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

Jan. 30, 1957

Commonwealth of Massachusetts
Dept. of Public Works
191 Main Street
Greenfield, Mass.

Re: Dam at Bray Lake
Mt. Tom Reservation
Holyoke, Mass.

Gentlemen:

In reference to the above subject project, the County Hydraulic Engineer has investigated conditions at the Bray Lake Dam and has submitted a letter report to this office, a copy of which is attached hereto. The contents of this letter report describe generally the conditions as found at Bray Lake Dam and include certain comments regarding the dam.

We are anxious to have the conditions at this dam corrected so that leakage thru the embankment will be prevented in the future. At the present time, the lake is being used for skating purposes and because of the cold weather, it would seem advisable to delay any drawing-down of the lake and any investigation into the embankment until later in the winter. The County Hydraulic Engineer feels that the dam is safe provided the water level is maintained at or below spillway crest. Such is being done at the present time by means of the draw-down gate.

Since leakage thru the dam takes place when the water is above the spillway level, this condition of leakage should be investigated and corrected prior to the heavy spring run-off. Will you kindly plan to have the contractor do the necessary work to stop the leakage thru the embankment and to correct the conditions as pointed out in the enclosed letter? Our County Hydraulic Engineer would be pleased to work with your engineers in planning the investigation of conditions at the dam and in carrying out the corrective measures. It is the feeling of this Board that steps should be taken now to do the corrective work as soon as weather conditions permit and before high water endangers the embankment by a repetition of the leakage.

Will you kindly have the person assigned to this work contact the County Hydraulic Engineer, Mr. George McDonnell, at Holyoke

Commonwealth of Massachusetts
Greenfield, Mass.

Jan. 30, 1957

JEfferson 3-3991, as soon as possible in order that the necessary work may be planned now and executed as soon as proper weather conditions allow.

Very truly yours,

BOARD OF COUNTY COMMISSIONERS

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

TIGHE & BOND, Inc.
CONSULTING ENGINEERS
BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991
GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

Feb. 26, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

Reference is made to the dam at the Mt. Tom State Reservation forming Lake Bray and carrying the Reservoir access road. On Jan. 28, 1957 I wrote to your Board regarding the dam and particularly in connection with leakage that had appeared adjacent to the overflow culvert tube on the downstream face of the embankment. This leakage was first noted on Jan. 23, 1957.

In our letter we stated that conditions at Bray Lake could be maintained throughout the remainder of the skating season and that upon termination of the skating season should be drawn down sufficiently to allow for an investigation of the embankment for the purpose of determining why seepage occurred at the downstream face of the embankment.

I am of the opinion that it is now time to take action regarding this matter and to have an investigation made and corrective action taken to prevent further seepage.

It is recommended that the stored water in Bray Lake be drawn-down and that the Lake be kept emptied until the investigation is completed and proper repairs made.

The weather is now becoming warmer and the condition of the ice is very poor. Little if any skating will probably be done for the remainder of this year. Though the night-time may be cold enough to cause freezing, the day-time temperature will probably be above freezing most of the time. It would seem advisable to complete the investigation and to have the corrective action completed prior to the Spring use of the Lake for fishing and other purposes.

It is recommended that the Superintendent of the Reservation be directed to immediately drawdown Bray Lake and to leave the drain

The Hon. the Board of County Comm.
Springfield, Mass.

Feb. 26, 1957

gate wide open. In drawing down the Lake the gate should be opened only part way so as not to cause the discharge of the stored water at a high rate. Following emptying of the Lake the gate could be opened wide.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

GHM/cmb

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

TIGHE & BOND, Inc.
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PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

CD Holyoke

Feb. 27, 1957


Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

Enclosed herewith please find a copy of a communication sent to the Dept. of Public Works of the Commonwealth of Massachusetts, Greenfield, Mass., regarding the dam at Bray Lake. The contents of this letter are self explanatory.

Very truly yours

Tighe & Bond, Inc.


George H. McDonnell
Chief Engineer
County Hyd. Eng'r.

Enc.
GHM/cmb

COPY

CD Holyoke

Feb. 27, 1957.

Commonwealth of Massachusetts
Dept. of Public Works
191 Main Street
Greenfield, Massachusetts

Re: Bray Lake Dam
Mt. Tom Reservation
Holyoke, Mass.

Gentlemen:

In regard to the above subject dam I believe the County Commissioners of Hampden County wrote to you regarding leakage thru the embankment at the location of the new overflow tube. This leakage was described in a report to the County Commissioners dated January 28, 1957. I believe a copy of this report was submitted to your office by the County Commissioners.

The skating season at Bray Lake has ended due to warm weather conditions. It is so late in the Winter that it can be expected there will be little, if any, further opportunity for skating. Consequently, it would seem advisable to plan on making the necessary investigation at the new embankment and to take whatever corrective action is necessary to prevent the leakage thru the earth fill.

At two locations the asphalt surface of the road has cracked and settled. One of these locations is in the vicinity of the new spillway tube.

The undersigned would be pleased to discuss the necessary work at this dam and road embankment with your personnel and to plan the necessary corrective measures to prevent further leakage thru the embankment. If the work can be considered now it will be possible to complete the necessary alterations and repairs in time to refill Bray Lake and make use of this body of water for the Spring fishing and recreational season.

If the person assigned to this work will call or write the undersigned, at the above address, I will arrange my work schedule to assist in any way to expedite the necessary work on the project.

Very truly yours

GHM/cmb

George H. McDonnell
County Hydraulic Engineer

WATER SUPPLY
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DAMS & POWER INSTALLATIONS
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WASTE DISPOSAL

CD-Holyoke

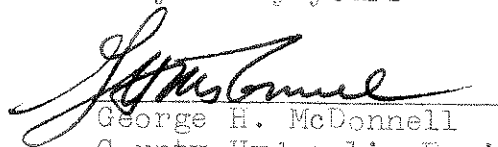
March 7, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
37 Elm Street
Springfield, Massachusetts

Gentlemen:

In reference to the dam at Bray Lake in Mt. Tom Reservation, the undersigned will meet with Mr. Prescott of the Department of Public Works of the Commonwealth of Massachusetts at the site of the dam on Thursday afternoon to discuss the necessary alterations to make this dam tight and prevent further seepage thru the structure. I will report to your Board on the results of the conference with Mr. Prescott.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke

March 26, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

Reference is made to the dam at Bray Lake in Mt. Tom Reservation. It was pointed out in previous communications to your Board that the small leakage occurring thru the dam, in the vicinity of the new spillway tube, was causing a washout of some soil material and that as a result of this washout a settlement in the surface of the roadway was noted directly above and in the vicinity of this spillway tube.

Just prior to this past week-end, the undersigned received notification that further settlement had occurred and that a definite failure had taken place in the road pavement.

An examination of conditions in the field indicates that the material washed out by the small leak had resulted in forming a cavity under the road and with the passing of cold weather and the thawing of the frost in the road, the earth fill settled into the cavity and consequently a hole appeared in the roadway.

I will discuss this matter with Mr. Prescott of the Department of Public Works in Greenfield and determine when the repair work will take place at the spillway tube so that the road can be permanently repaired and water again impounded behind the dam. If there should be a delay in doing the repairs to the dam, it would seem possible to reopen the road by packing fill into the cavity and then filling the hole to road grade. This work would probably not require more than two(2) yards or so of fill material and a few man hours of labor to properly pack the material into the cavity. With the cavity refilled the road could probably be opened for use until the time when permanent repairs are to be made.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke
March 26, 1957

Commonwealth of Massachusetts
Dept. of Public Works
191 Main Street
Greenfield, Massachusetts

Att: Mr. Prescott
Chapter 90 Div.

Re: Bray Lake Dam-Mt. Tom Reservation
Holyoke, Mass.

Gentlemen:

During the past week-end further settlement took place in the roadway at Bray Lake Dam. This settlement probably resulted from frost leaving the ground and allowing the subgrade material of the roadway to fall into the cavity washed out from around the spillway tube by the leakage that occurred during the past winter. At the present time, the roadway to the Reservation has been blocked off.

Do you know whether or not the permanent repairs at the spillway tube are to be made in the very near future or whether there will be a delay in doing this work. If there is to be a delay, it would seem advisable to do temporary repair work at the cavity in the roadway in order that the road might be reopened for vehicular use. An examination of the cavity in the field indicates that it might be possible to plug this cavity reasonably well for use of the roadway until such time as repair of the cavity for the purpose of impounding water can be accomplished.

Will you kindly inform the undersigned as to whether or not the permanent repairs will be made in the very near future and, if there is to be a delay, your thoughts on a temporary repair to restore the road to a useful condition are requested.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke

COMMONWEALTH OF MASSACHUSETTS
DEPT. PUBLIC WORKS
DISTRICT #2 OFFICE
191 MAIN STREET
GREENFIELD, MASS.

March 29, 1957

208-Holyoke
Mount Tom Reservation

Tighe & Bond, Inc.,
Bowers & Pequist Sts
Holyoke, Mass.

Gentlemen: Attention: Mr. G. H. McDonnell

In reference to your letter of March 26, 1957,
it is probable that the Department will advertise for the
permanent repairs to the spillway of Bray Lake.

In view of the delay we would advise that a
temporary repair be made at the cavity in the roadway.
Such repairs would serve to allow the road to be opened
for traffic with no hazard.

When permanent repairs are undertaken it will
be necessary to close the road to traffic for the duration
of the contract.

Very truly yours

Charles M. Damon
District Highway Engineer

KCP/M
C-Mr. Pyne

CD Holyoke
April 1, 1957

Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Massachusetts

Gentlemen:

I have received notification from the Department of Public Works of the Commonwealth of Mass., that it is probable the Department will advertise for permanent repairs to the Dam at Bray Lake, in Mt. Tom Reservation. The Department points out that in view of the delay it is advised that temporary repairs be made to the cavity in the roadway. Such repairs would serve to allow the road to be opened for traffic with no hazards. When permanent repairs are undertaken, it will naturally be necessary to close the road to traffic for the duration of the repairs.

We are enclosing a copy of the letter from Charles Damon, District Highway Engineer.

It is recommended that the Reservation personnel be instructed to fill the cavity in the roadway by packing earth fill into the cavity. The use of a small quantity of water to assist in packing the earth might be advisable. This could be accomplished on a trial basis to determine its effectiveness. The cavity should be filled to the surface of the pavement and the top 6-inches should be a good gravel with a binding material to hold the gravel in place.

Such a repair would allow the reopening of the road until such time as the permanent corrective action is taken at the spill-way tube area.

Very truly yours

Enc.
GHM/cmb

George H. McDonnell
County Hydraulic Engineer

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

TIGHE & BOND, Inc.
CONSULTING ENGINEERS
BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

CD Holyoke
April 1, 1957

Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Massachusetts

Gentlemen:

I have received notification from the Department of Public Works of the Commonwealth of Mass., that it is probable the Department will advertise for permanent repairs to the Dam at Bray Lake, in Mt. Tom Reservation. The Department points out that in view of the delay it is advised that temporary repairs be made to the cavity in the roadway. Such repairs would serve to allow the road to be opened for traffic with no hazards. When permanent repairs are undertaken, it will naturally be necessary to close the road to traffic for the duration of the repairs.

We are enclosing a copy of the letter from Charles Damon, District Highway Engineer.

It is recommended that the Reservation personnel be instructed to fill the cavity in the roadway by packing earth fill into the cavity. The use of a small quantity of water to assist in packing the earth might be advisable. This could be accomplished on a trial basis to determine its effectiveness. The cavity should be filled to the surface of the pavement and the top 6-inches should be a good gravel with a binding material to hold the gravel in place.

Such a repair would allow the reopening of the road until such time as the permanent corrective action is taken at the spillway tube area.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

Handwritten notes:
Mr. [unclear]
[unclear]
[unclear]
[unclear]

CD Holyoke
May 17, 1957

E. T. O'Neill Contractors
Commercial Street
Holyoke, Mass.

Gentlemen:

On Wednesday, May 15, 1957, the undersigned examined the repair work completed at Bray Lake in Mt. Tom Reservation. The work has been completed satisfactorily and in accordance with the requirements of the specifications. However, the finish grade of the asphaltic surface of the roadway on the southerly edge of the road is such that the bottom elevation of the old trough built to carry surface water into a pond is higher than the surface of the adjacent paving. I have not taken levels on the edge of the paving but it would seem to me that surface water will run off of the paving towards the pond just northerly of the old paved surface water chute. A slight adjustment in the surface grade or the construction of a short asphaltic road shoulder or curb just westerly of the chute should provide proper protection to prevent surface water from running off of the road at this point. Ten (10) feet, more or less, of elevated shoulder or curb constructed of asphaltic material should suffice.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

H-52
May 24, 1957

E. T. O'Neill & Sons
Commercial Street
Holyoke, Mass.

Gentlemen:

I received your telephone message that the work at Bray Lake at Mt. Tom Reservation had been completed. I reviewed the work at the site and am of the opinion that the road pavement is not at proper grade based upon the level of the adjacent paved areas. Your paving seems low on the basis of the old paving and traveling over your patch there is a noticeable drop as the vehicle passes from the original paving onto your new paving. Will you kindly check this matter and if you wish, I would be pleased to meet with a representative of your organization to discuss this final phase of the repair work.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

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STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

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CONSULTING ENGINEERS
BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991
GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

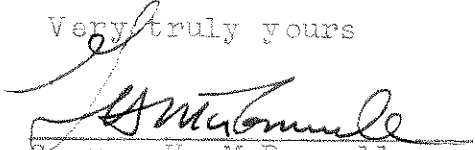
H-5
May 24, 1957

The Hon. the Board of County Commissioners
Rampden County Court House
Springfield, Mass.

Gentlemen:

I have recently inspected again the repair to the dam at Bray Lake in Mt. Tom Reservation and note that the grade of the paving repair is not entirely satisfactory and I have notified the Contractor and enclose a copy of the letter for your information and file purposes. The contents are self-explanatory.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

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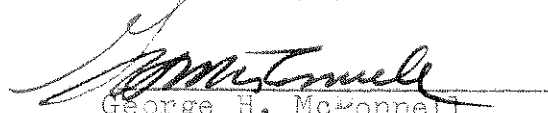
CD Holyoke
May 17, 1957

Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Mass.

Gentlemen:

Enclosed for your information and file purposes please find a copy of a communication sent to E. T. O'Neill regarding the repairs at Bray Lake Dam. The contents of this letter are self explanatory.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

WATER SUPPLY
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GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

C.D. Holyoke
July 2, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Mass.

Gentlemen:

On Monday, July 1, 1957, the undersigned inspected the dam at Bray Lake in Mt. Tom Reservation and found that the seepage previously existing at this dam appears to have been corrected by the concrete collar installed around the tube overflow and the wooden sheet piling.

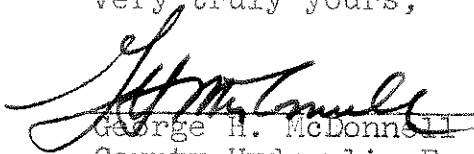
If it is desirable to raise the lake to the level that was maintained during the spring, summer and fall seasons in the past, a flashboard system could be installed upon the top of the vertical overflow well and this flashboard system could be set with the top of the flashboards at the same grade as the pond had been maintained in years gone by.

It will not be a difficult matter to frame a flashboard arrangement on top of the concrete wall of the spillway. This flashboard arrangement could be braced from the inside and could set directly on top of the wall.

The flashboards could be arranged in such a way that they could be lifted off in the fall when the level of the lake would be lowered for skating purposes. If the level of the lake is raised, the growth of grass along the edges will be discouraged to a great extent. Shallow water along portions of the shoreline now results in growth that may be undesirable.

The flashboard system could be built and installed by the maintenance personnel at the Reservation. If they wished any assistance or guidance in the framing and installation of the flashboards, I would be pleased to help them in this matter.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/f

Jan. 8, 1958

Mr. Edward G. Schaeffer
Northampton Highway
Smiths Ferry
Holyoke, Mass.

Dear Sir:

In accordance with the provisions of Chapter 253, Section 45, et seq. of the General Laws, Tercentenary Edition, relative to the inspection, condition and safety of the dams of Hampden County, you are hereby advised that your dam located off of Northampton Road and southerly of the Road to Mt. Tom Reservation has been recently inspected by our Engineer and your attention is called to the condition noted and the recommendation made by him.

"This dam located off Northampton Highway and southerly of the road to Mt. Tom State Reservation is very wide and quite low in height. In the earth embankment of the dam adjacent to the two masonry manholes there is a cavity that should be investigated and repaired. It would appear as if this cavity is the result of a crack or an open joint in the drainpipe. By excavating the cavity and examining the drainpipe, proper repairs can be made. It is recommended that these repairs be made in the near future."

Any further information concerning this matter which you may desire will be furnished by this office upon request.

Very truly yours,

HAMPDEN COUNTY COMMISSIONERS

Chairman

H-20 Feb. 18, 1960

Mt. Tom Reservation Commission
c/o Hampden County Commissioners
Hampden County Court House
37 Elm St.
Springfield, Mass.

Gentlemen:

Reference is made to the request of Commissioner Stapleton for the undersigned to examine the old foundation adjacent to Bray Lake for possible use as the foundation for a new building to be constructed in the near future. The foundation is in general constructed with local stone and some concrete masonry. The foundation was apparently built many years ago and has remained unused for quite some time.

An examination of the foundation shows that there is some evidence of movement but this movement does not appear to be serious. There are some areas where stones have either fallen from or been removed from the foundation walls. Stones could be replaced or these voids filled with concrete.

At the time of my examination, ice and snow hid the footing of the existing foundation walls and frozen ground prevented any digging around the base of the existing walls. However, the existing walls appear to have been planned for holding the weight of a structure and consequently, since no major shifting or settlement of any of the walls has occurred over the many years since the walls have been built, it would appear safe to assume that the walls could be made to support a typical toilet and general purpose building as contemplated.

In making use of the walls, it would also be necessary to level the top of the walls to the desired design grade and this could be done by the use of concrete masonry or a combination of local stone masonry with concrete. Large voids in portions of the walls near the upper surface could be filled with concrete. Before doing any concrete filling, the existing stone wall should be cleaned of any debris, dirt, and miscellaneous foreign matter.

H-20
Feb. 18, 1960

2.

In this way, the new concrete will be able to adhere well to the existing stone work.

Based upon the type of building to be built, the floor load, if any, to be imposed on the foundation walls and the wall as well as the roof load itself, necessary work on the existing foundation walls can be determined and carried out.

We will be pleased to assist your Commission and the personnel designing as well as constructing the building, in connection with proper use of the existing walls.

Very truly yours,

Tighe & Bond, Inc.

George H. McDonnell
Chief Engineer

GHM/f

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

TIGHE & BOND

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CIVIL, SANITARY AND ELECTRICAL ENGINEERING
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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

H-20 Feb. 18, 1960

Mt. Tom Reservation Commission
c/o Hampden County Commissioners
Hampden County Court House
37 Elm St.
Springfield, Mass.

Gentlemen:

Reference is made to the request of Commissioner Stapleton for the undersigned to examine the old foundation adjacent to Bray Lake for possible use as the foundation for a new building to be constructed in the near future. The foundation is in general constructed with local stone and some concrete masonry. The foundation was apparently built many years ago and has remained unused for quite some time.

An examination of the foundation shows that there is some evidence of movement but this movement does not appear to be serious. There are some areas where stones have either fallen from or been removed from the foundation walls. Stones could be replaced or these voids filled with concrete.

At the time of my examination, ice and snow hid the footing of the existing foundation walls and frozen ground prevented any digging around the base of the existing walls. However, the existing walls appear to have been planned for holding the weight of a structure and consequently, since no major shifting or settlement of any of the walls has occurred over the many years since the walls have been built, it would appear safe to assume that the walls could be made to support a typical toilet and general purpose building as contemplated.

In making use of the walls, it would also be necessary to level the top of the walls to the desired design grade and this could be done by the use of concrete masonry or a combination of local stone masonry with concrete. Large voids in portions of the walls near the upper surface could be filled with concrete. Before doing any concrete filling, the existing stone wall should be cleaned of any debris, dirt, and miscellaneous foreign matter.

*Copy of this letter sent to Sup't. John P. Knox
on Feb. 25, 1960.*

**TIGHE
& BOND CONSULTING ENGINEERS**

H-20
Feb. 18, 1960

2.


In this way, the new concrete will be able to adhere well to the existing stone work.

Based upon the type of building to be built, the floor load, if any, to be imposed on the foundation walls and the wall as well as the roof load itself, necessary work on the existing foundation walls can be determined and carried out.

We will be pleased to assist your Commission and the personnel designing as well as constructing the building, in connection with proper use of the existing walls.

Very truly yours,

Tighe & Bond, Inc.


George H. McDonnell
Chief Engineer

GHM/f

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

TIGHE & BOND

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HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

H-20
March 30, 1960

Mt. Tom State Reservation Commission
c/o Hampden County Commissioners
Hampden County Court House
37 Elm Street
Springfield, Mass.

Gentlemen:

Reference is made to my conversation with Commissioner Stapleton in connection with a system for disposing of sanitary sewage at the proposed Bray Reservoir new building, if flush toilets are installed. I have examined the area in the field and it would appear that the most likely location for the liquid sewage disposal facilities would be on a site across the main road from the existing building at Bray Lake. This site is the area at and to the north of the existing toilet facilities. It is my hope that the soil in this area would be suitable for the construction of typical seepage trenches and that these trenches could be fed from a septic tank located either easterly or westerly of the main entrance road, at a point between the present lodge building and the existing two small toilet houses.

The Superintendent of the reservation had nine(9) test holes dug for us in the area thought best suited for the seepage facilities. These test holes showed the presence of a large quantity of ground water. One hole stood full to the surface with ground water while all others showed ground water at varying depths. The driest of the holes showed water standing only 13" below existing ground level.

Based upon the high ground water condition and the type of soil encountered, it would not be possible to build a sewage disposal system using the typical standard seepage trenches for handling the effluent from a septic tank. Because of the high ground water condition, it will be necessary to clear an area about 40 ft. wide and 80 ft. long for the purpose of constructing a sub-surface sand filter. The ground in question would be leveled at a grade above existing ground water conditions. On the prepared ground a system of collection pipes would be in-

**TIGHE
& BOND CONSULTING ENGINEERS**

-2-
H-20
March 30, 1960

stalled and these would be gravel encased. On top of the gravel encased collector pipes, a sand filter approximately 30" in depth would be constructed. On top of this sand filter, distribution pipes would be laid on about 6 ft. centers. They would be laid in a bed of gravel. On top of this gravel encased distribution system there would be about 6" to a foot of top soil.

The sand filter as described would be built above the level of ground water. Sewage liquid from the septic tank would pass into the top layer of pipes and be distributed onto the sand filter thru the upper gravel layer. The liquid would filter thru the bed of sand and then be collected in the underdrains first laid on and in the properly prepared original soil. The underdrain pipes would be collected to a common manhole or collection box where facilities for chlorination of the filtered liquid would be provided. From here the liquid would be passed to the stream thru a pipe at a point adjacent to the filter bed.

Because of the concentrated load that could be placed upon the sewage disposal system during skating periods in the winter, the septic tank would of necessity be large in size. We have not as yet determined a definite size but, in all probability this tank might be in the neighborhood of 4,000 gallons in capacity.

Before the sewage disposal system, as described, could be approved for construction, it would be necessary to obtain clearance from the owner of property downstream where water is ponded for recreational and aesthetic purposes. This is at the property of P. J. Kennedy. The proposed construction of Route 91 will probably eliminate the Kennedy dam and pond. However, if an application is made to the State Dept. of Public Health for approval of a sewage disposal system at this time, since Route 91 is only in its planning stage, the Health Department will undoubtedly require that the approval of the Kennedy family be obtained since the treated liquid effluent from the proposed disposal system, mixed with normal brook flow, would be passing thru Kennedy property.

Since the brook into which the liquid affluent would be discharged has its mouth in the Connecticut River above the dam, and since the Connecticut River is classified "B" above the dam, chlorination of the sewage effluent at the treatment facilities adjacent to Bray Lake would be required during the Spring, Summer and early Fall months. Chlorination would not be needed in the Wintertime during the skating season, when the heavy usage of the system would probably occur.

Because our design is of a preliminary nature at the present time and consists of nothing more than a few notes, preliminary

**TIGHE
& BOND CONSULTING ENGINEERS**

-3-
H-20
March 30, 1960

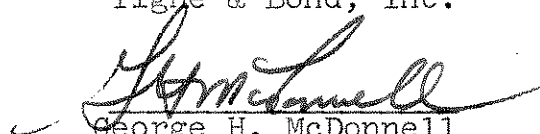
computations and the gathering of data regarding ground water conditions, the cost of the proposed disposal facilities cannot be firmly determined. However, I am of the opinion that the septic tank in place, together with the seepage field, related piping and distribution facilities will run in the neighborhood of \$5,000. This cost could be reduced considerably by the use of hired equipment and reservation personnel in the installation of the pipelines, the building of the sand filter, etc. However, I feel certain that even doing the work in this manner, the cost will be in excess of \$3,500.

The preliminary design figures are based upon the presence of three flush toilets and one urinal in the new building. Usage is based upon an 11-hour day in the summertime, with peak usage occurring during a period of about six hours.

I will be pleased to meet with your Commission, if you do desire, in connection with this proposed disposal facility.

Very truly yours

Tighe & Bond, Inc.


George H. McDonnell
Chief Engineer

GHM/cmb

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
April 30, 1968

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam
Reservoir Road
Holyoke, Mass.

Gentlemen:

In accordance with your request, an inspection was made of the above subject dam and in particular, the wash-out at the old culvert outlets extending under the road leading into the Reservation. Inspections by Philip Sheridan of this office in the absence of the undersigned, followed by an inspection of the undersigned on Monday, April 29th, showed that the bottom of the culverts which form the old spillway are now rotted sufficiently whereby soil is being washed away. The cave-in along the upstream edge of the paved roadway is undoubtedly related to the rotten bottoms of the two old culvert spillways.

In our inspection of 1966, and as reported to your Honorable Board in November of that year, we stated as follows:

"The old original spillway tubes are in the same general condition as previously reported. Inverts have become rotted --- the headwall is cracked at three locations, and a portion of the headwall is mis-aligned. This condition does not endanger the dam. No leakage whatsoever was noted through the embankment in the vicinity of the spillway tubes. "

Later on in our report we pointed out that at some future date funds should be included in the budget for repairing or replacing the spillway tubes and the cracked concrete headwall.

**TIGHE
& BOND CONSULTING ENGINEERS**

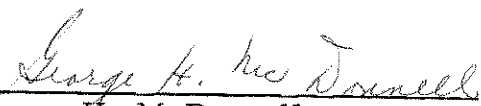
-2-

Apparently, since the last routine inspection of this dam approximately 18 months ago, and two past spring flood conditions, the bottoms of the two culverts have rotted sufficiently and the failure of the headwall has progressed to a point where leakage has started and the cavity formed.

The correct solution to the problem is the complete replacement of the headwall and the two spillway tubes. This should be done at a time when the pond can be emptied or at least lowered to protect the construction area from possible storm flow conditions. Temporary repairs might be made by removing the rotten portions of each culvert invert and digging out the soil thereunder. A concrete patch could then be placed to extend under the original grade of the culverts and to form a new invert.

The undersigned would be pleased to meet with you or with your Reservation personnel if you wish to discuss further, the replacement or the repair of these culvert pipes and the headwall. For the safety of the dam, it is the opinion of the undersigned, that this work must be done before the heavy Fall storm run-off conditions occur.

Respectfully submitted,


George H. McDonnell
County Hydraulic Engineer 2

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

TIGHE & BOND

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HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
October 21, 1968

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam

Gentlemen:

Inspections of various dams within the City of Holyoke have been made recently and particular attention has been given to the dam at the Reservation at Lake Bray.

The embankment of this dam at the Reservation is o.k. The toe area is dry. There is no brush growth on the embankment slopes and the surface of both the upstream and downstream slope is stable. The road extending for the entire length of the top of the dam is in satisfactory condition with the exception of the settled area adjacent to the main spillway. Settlement here seems to have stabilized. However, the road surface is depressed and it would seem advisable to bring it up to grade with Type I asphalt concrete and eliminate the depression. This work should be done during 1969 at the latest.

A special inspection and report on the dam was made on April 29th of this year because of the formation of a cave-in along the upstream edge of the roadway pavement in the vicinity of the twin auxiliary spillway tubes. At that time, it was pointed out to your Board that in previous inspections we called attention to the fact that these old original spillway tubes were becoming rotted. As of 1966, this condition had not progressed to a point to endanger the dam. However, as reported on April 30, 1968, the condition of these tubes had deteriorated to a point where leakage had resulted in the formation of the cavity and failure of the road shoulder.

We have previously recommended that the solution to the problem is the complete replacement of the headwall and the two spillway tubes, and that this work should be done at a time when the lake could be emptied or at least lowered to protect the construction area from possible storm flow conditions. Temporary repairs were suggested in our letter of April 30, 1968.

As of the present time, it is essential that some action be taken to prevent the passage of water into the twin spillway tubes. If Fall rains and Spring run-off are allowed to continually pass into these twin tubes, the water will flow into the embankment soil under the rotted tube inverts and will cause displacement of the soil, failure of the road shoulder, and could even result in failure of the dam embankment.

As long as water does not continuously flow into these twin tubes, there will not be the danger of soil erosion in the embankment. To prevent water entering the tubes, except under short-lived flood flow conditions, it is recommended that, as an emergency measure to serve until after the Spring freshet of 1969, sand bags be placed in front of the twin tube openings to a height of about 2 feet, and that the sand bags be tight enough and well placed so as to form a watertight dam.

This temporary sandbag barrier will prevent continuous flow of run-off through the twin spillway tubes and will result in diverting all run-off through the main spillway located further to the east. Should a serious flood occur, the sandbags would be overtopped and the twin auxiliary spillway tubes could function during the emergency. A minor amount of cement grout patching at the upper portion of each of the twin tubes would greatly decrease any soil erosion from the embankment during any short, extreme flood flow period. All of this work could be done by the Reservation maintenance and operating employees.

In 1969, permanent repairs could be made to these spillway tubes. A new headwall could be constructed, and an overflow lip-type of weir, about 18" in height, could be included as part of the headwall construction so that only extreme flood flow conditions would result in the operation of these twin spillway tubes. At the same time as the new headwall construction is done, new concrete spillway tube sections could be incorporated into the new headwall and could replace the badly rotted corrugated iron tubing from the headwall location into the embankment at the point where the grade of the present spillway tubes extend sharply downward. Concrete

patching of the inverts of the remaining portions of the tubes could complete the work.

The permanent work as outlined for 1969 is not an absolute necessity in that the spillway facility constructed after the flood of August, 1955 was built of a size suitable for the drainage area. The new spillway is twice the size of the twin tube original spillway now in need of attention and repair or replacement.

It would be possible to eliminate the twin tubes entirely by lowering the lake, digging out the tubes, and filling the void with selected compacted earth. An alternate to this work would be plugging the tubes with concrete at the upper portion of each tube after first filling the lower portion of each tube with wash-in sand and gravel. This latter method would result in saving the road paving from excavation and replacement. The old concrete headwall could be broken up and removed.

The cost of eliminating the twin tubes would probably be almost as much as doing the improvements suggested for 1969 hereinbefore. There are advantages in maintaining the twin culverts for emergency purposes. Should brush and debris become lodged on the steel bar rack at the large and newer spillway in time of flood flow conditions so that the capacity of this spillway is restricted, water could then be relieved thru the dam at the twin culvert location. Dams have been washed out in the past even though they had adequate spillway facilities simply because the entrance to these spillways became plugged during the crucial hours of flood flow by heavy debris washed downstream as a result of the raging flood water.

Also, should you ever wish to do maintenance work at the main spillway or spillway tube in the future, you could rely on the repaired twin tubes as emergency spillway outlets.

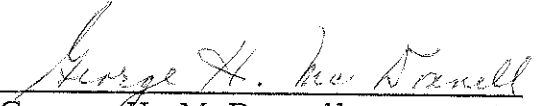
In summary, it would be advisable to construct the temporary sand-bag dam in front of the twin tubes for the coming Fall thru Spring season. Also, temporary grouting of the worn invert sections could be done with a few bags of pre-mixed sand-cement grout. All of this would be hand labor to be accomplished by about two men.

During the next month or two, while preparing the budget for next year, it could then be decided by your Board as to whether or not you

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& BOND** CONSULTING ENGINEERS

wish to retain the twin culvert spillway facility or abandon it. The cost for retaining the spillway facility and doing the minimum work necessary to make it safe, would be about \$2,800.

Respectfully submitted,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

***TIGHE
& BOND*** *CONSULTING ENGINEERS*

CIVIL, SANITARY AND ELECTRICAL ENGINEERING
INVESTIGATIONS, REPORTS, PLANS AND SPECIFICATIONS
SUPERVISION OF CONSTRUCTION AND OPERATION

BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
December 9, 1968

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam

Gentlemen:

The undersigned made a re-inspection of the above subject dam at the Mt. Tom Reservation on November 29, 1968, for the purpose of determining conditions in the field at the location of the old twin culvert spillway. As pointed out previously, the old spillway tubes have deteriorated to a point where the water leaks into the fill of the embankment carrying the roadway and as a result, settlement of the roadway has occurred in the past.

As long as water is allowed to flow into these old spillway tubes, the danger of embankment settlement and disturbance will be ever present. The flowing water will enter the embankment soil under the rotted tube inverts and as a result, settlement of the surface roadway will occur and failure of the embankment might take place. I call your attention to Paragraphs 2 & 3, Page 2 of our letter-report to your Honorable Board on October 21, 1968.

As long as water overflowing from the lake does not flow into the old twin spillway tubes, there will not be the danger of soil displacement in the embankment. To prevent water from entering the old spillway tubes under normal operating conditions, as an emergency measure for this winter and thru the spring of 1969, sand bags should be placed in front of the twin tube openings to a height of about 2 feet. The sand bags should be hand placed in such a manner as to be watertight.

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-2-

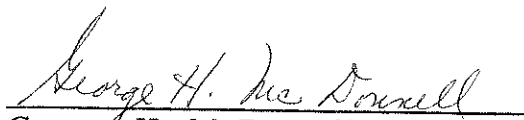
The small sand bag barriers thus placed will prevent water from flowing into the rotted spillway tubes, and all normal overflow from Bray Lake will take place at the major spillway located further to the east.

Should a major flood occur, the sand bags would be overtopped. However, a wall of sand bags 2 feet high directly in front of the old twin spillway tubes would undoubtedly be sufficiently high to keep these old tubes dry under any anticipated normal spring run-off condition.

Permanent repairs should be made during 1969. Recommendations in connection therewith are contained on Pages 2, 3 & 4 of our letter-report of October 21, 1968.

It is further recommended that in preparing the budget applicable to the Mt. Tom Reservation for the year 1969, funds be provided to re-grade the road on top of the dam at the sunken area directly above the main and new spillway facility. This area of the embankment settled about 10 years ago when seepage occurred along the outside of the large corrugated iron spillway tube. Corrective action was taken by installing a concrete seepage control collar around the tube. However, complete repairs of the road surface were never made. The paving at the sunken area should be cut out, compacted gravel placed to proper grade, and then a paving patch installed to bring the roadway up to a proper and smooth riding surface.

Respectfully submitted,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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SUPERVISION OF CONSTRUCTION AND OPERATION

BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
December 31, 1969

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Gentlemen:

Re: Bray Lake Dam,
Mt. Tom Reservation

The undersigned made a re-inspection of the above subject dam on Wednesday, December 31, 1969, for the purpose of determining whether or not a proper temporary dike had been placed in front of the two old spillway tubes to prevent them from becoming active. In my letter-report on the condition of dams within the City of Holyoke dated December 8th, I pointed out that the temporary dike in front of the old spillway tubes had been broken through and at that time it was no longer serviceable. It was recommended that the dike be properly maintained and that it be inspected frequently and repaired as necessary to keep it functional so as to prevent the entrance of lake water into the old spillway tubes.

While at the dam today, the entrance to the old tubes was found to be partially blocked with snow. However, by kicking away the snow in front of the left tube, I found that there was no suitable dike present to prevent the spillway tubes from becoming active should a thaw occur and the level of the lake surface rise.

Conditions at the dam embankment are not good, particularly if water is allowed to enter the old spillway tubes. A failure of the embankment has already begun, as pointed out in my letter-report of December 8th. Permanent repairs are a must in 1970.

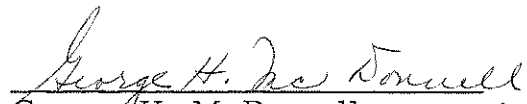
Personnel at the Reservation should be directed to construct a good water-tight, dike type barrier, in front of the old spillway tubes now and to maintain this barrier until after the spring heavy runoff.

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-2-

Any continuation of the leakage of water into the embankment of the dam through the old rotten spillway tubes could accelerate the enlargement of the void which is being formed under the roadway and, if the flow of water through the cavity is rapid enough, complete failure of the embankment could occur and water stored in Lake Bray could be released rapidly to do heavy damage downstream.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD-Holyoke
April 22, 1970

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Gentlemen:

Re: Bray Lake Dam
Mt. Tom Reservation

On Tuesday, April 14, 1970, the undersigned inspected the old spillway at the above subject dam and noted that a sizeable sand dike exists in front of the old spillway tubes. This dike prevents water from flow into the tubes and thus it is protecting the dam embankment from soil erosion in the area where the old spillway tubes are corroded and rotten.

This dike is a temporary measure and should be replaced in the not too distant future with a permanent concrete wall. The wall should be constructed as a part of a new concrete headwall facility. The present headwall is broken, misaligned and in very poor condition. It is not only unsuitable from a structural and a hydraulic viewpoint, but it is also very undesirable from an aesthetic viewpoint.

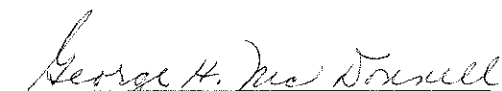
If it is at all possible, the headwall facility should be reconstructed along with the hereinbefore recommended concrete diversion or curb wall during the coming summer. Until sufficient funds can be made available for this amount of work, then repair or replacement of the spillway tubes could be scheduled for another year. It would be desirable to do all of the repair and replacement work at one time. However, this would probably necessitate an expenditure of funds larger than available in a single year. By doing the headwall and curb wall work one year and the tube replacement or repair work another year, the total expenditure could be spread out over two fiscal years.

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-2-

The undersigned would be pleased to assist you in any way in laying out a design and preparing a specification for new headwall and curb wall construction.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
May 14, 1970

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Gentlemen:

Re: Bray Lake Dam
Mt. Tom Reservation

The undersigned has made an inspection of the small road surface failure at the above subject dam and has noted that the failure has occurred directly above the twin tubes of the old spillway facility. This break is related to the depression formed on the surface of the dam embankment and noted in my report of December 8, 1969. At that time, the report pointed out that the depression was quite evident at the edge of the road and was then extending under the roadway pavement. It was my opinion that the depression would continue to widen and deepen and the road would settle to a point where pavement failure would probably occur.

Previous recommendations for preventing further road and embankment damage at the old twin spillway tubes included the construction of a new headwall with a dike-type entrance, to prevent lake water from entering the spillway except at the time of an extreme flood. I felt that as long as water overflowing from the lake did not flow into the old twin spillway tubes, danger of soil displacement in the embankment would be minimized.

In a report of 1968, I pointed out that a new headwall to be constructed should include an overflow lip-type weir about 18" in height above the bottom of the old spillway tubes so that normal flow out of the lake would be prevented from passing thru the tubes. Along with the construction of the new headwall, new concrete spillway tube sections would be incorporated into the new headwall to replace the badly rotting corrugated iron tubing from the headwall location to the point where the present deteriorated spillway tubes extend sharply downward. The lower section of each of the tubes would have been patched with concrete.

Since the time of this original recommendation, failure has extended to a point where the embankment at the old tubes must be excavated, voids plugged, the embankment excavation replaced and paving restored. There are voids under the paving and in the embankment itself caused by openings in the top of each old tube thru which embankment earth has been falling. When soil which is arched over the void falls thru, there is no further support for the paving and the paving itself collapses.

Since the entire section of the upstream half of the embankment at the spillway tubes should be excavated down to the top of the tubes and, since my most recent examination of the condition of both tubes shows that they are now quite seriously rotted, rusted, and joints have opened quite wide, I wish to submit the following recommendation for the complete abandonment of the old tubes rather than constructing the new headwall with the weir lip wall and the insertion of a concrete liner within the tubes, together with repair of the tubes in the lower sections.

- A. Excavate the embankment and roadway above the tubes to the top of the tubes as needed. Open a hole in the top of each tube by enlarging existing holes and then, with the use of 2,000 lb. mass concrete, completely fill each tube by shooting the concrete directly thru the hole in the top of the upper section of each tube. By proper scheduling and handling of the concrete, it is possible that a minimum of bulkhead work will be required at the end of each tube.
- B. Fill any voids found along the outside of each tube with compacted earth or concrete grout.
- C. Fill a portion of the trench over the tubes with Class B concrete, then compacted gravel and pavement repair.
- D. Break out the old headwall and dispose of the broken concrete.
- E. Shape and slope the upstream surface of the embankment down to the lake shore, using riprap.
- F. Within the next year, provide a swale overflow around the westerly end of the dam embankment by shaping a wide trough area in the roadway. Thus, should the 8 ft. diameter spillway constructed in 1956 be unable to handle flood flows and the level of the lake rise, water will flow to the stream below, around the dam on natural ground, rather than over the top of the dam embankment.

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- 3 -

I have made an analysis of the drainage area and have also noted that the 1956 spillway has a capacity of more than twice the old spillway tubes now recommended to be abandoned. In all probability, the 1956 spillway will handle any flood flows which will occur, based upon the drainage area as now existing. However, during flood flow conditions, there is always the possibility that the inlet to the one remaining spillway facility will become blocked with large floating wooden debris, logs, stumps, etc., and thus its capacity might be greatly reduced. It would be under this condition when the recommended emergency swale type spillway would then function to relieve the rising water level in the lake.

It is my opinion that the revised method of handling the problem at the Bray Lake Dam is more desirable because of present conditions at the old spillway tubes, that the revised solution will be lower in cost, and the revised solution can be completed within a matter of a very few days without the need of skilled help for the purpose of constructing forms, placing and tying reinforcing wire, finishing concrete, etc.

The undersigned will advise Reservation personnel in carrying out the work as outlined herein, if you so desire.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

Holyoke Dam



1895 Holyoke

Located on the Connecticut River in Holyoke. See also: County Highways (Holyoke) - "Holyoke Water Power Company Land" - ch14001. See also: County Roads Plan #3 (1950) "Hydroelectric Plant Dam at Holyoke Water Power". See also: Dams Report Section - Holyoke Water Works Deeds.

Abutters Holyoke Water Power Company

City/Town Holyoke

Dam Holyoke Dam

Name Massachusetts Comm Pulbic Works

Water Connecticut River



DIGITAL TREASURES

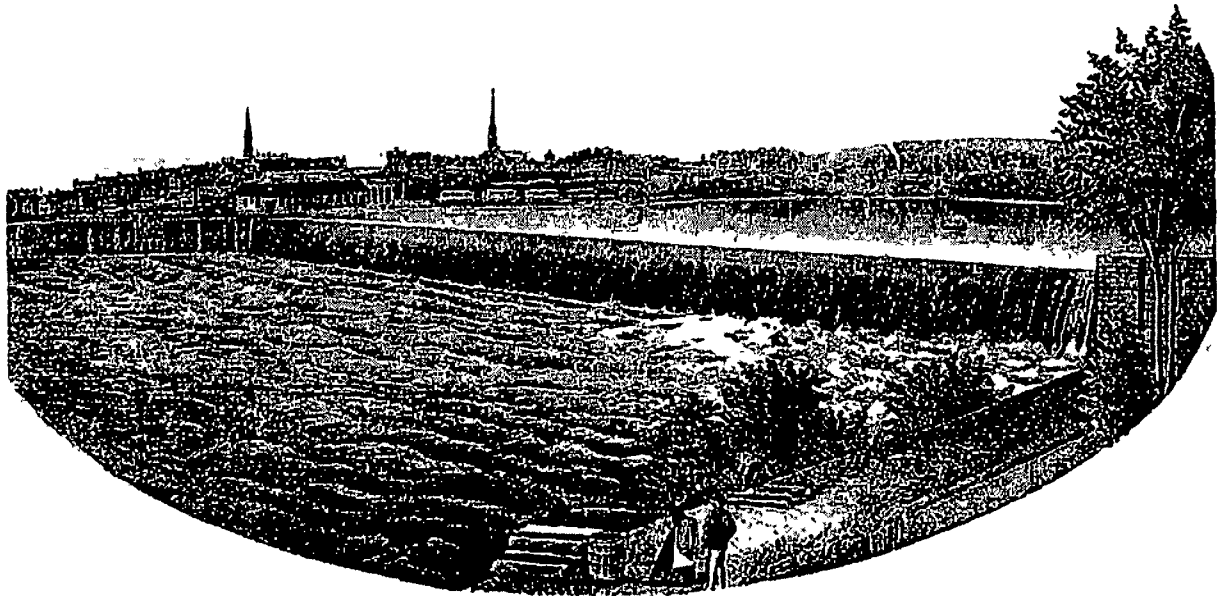
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[previous](#) : [next](#)

View of the great dam, Holyoke, Mass. from South Hadley Falls



Title	View of the great dam, Holyoke, Mass. from South Hadley Falls
Full Size Image	http://dlib.cwmars.org/cdm4/images/full_size/south_hadley/12.jpg
Subject	Waterfalls--Massachusetts--Holyoke--1860-1870; Dams--Massachusetts--Holyoke--1860-1870; Holyoke (Mass.)--1860-1870; South Hadley (Mass.)--1860-1870
Description	Lithograph shows the view of a couple walking along the South Hadley Falls river bank. There is a steam locomotive on the far bank, along with a view of buildings and church spires in Holyoke. This is the old wooden dam as it appeared from 1848 to 1870, "Length 1017 Ft.", "Height 30 Ft.". "Entered according to Act of Congress in the year 1868, by Harvey H. Cragin, in the Clerk's office of the District Court of Mass." "Published by Harvey H. Cragin, Holyoke, Mass."
Creator	Bowker, J.; Cragin, Harvey H.
Publisher	C/WMARS http://www.cwmars.org/
Contributors	Library of Congress, http://lccn.loc.gov/93503236 , for full image
Date	1868
Type	Image
Format	image/jpeg
Identifier	30597000380286
Language	en-US
Relation	Part of the Local History Collection of the South Hadley Public Library, http://www.shadleylib.org/
Coverage	421300N0723600W

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[^ to top ^](#)

BK 533
Pg 133

also another certain mortgage to secure the payment of the sum of six hundred dollars made to Massachusetts Mutual Life Insurance — of Springfield, Massachusetts.

In Witness Whereof, I, the said Abner W. Caverly, to release all homestead exemption rights in the aforesaid premises, have hereunto set my hand and seal, this thirtyfirst day of January, in the year of our Lord, one thousand eight hundred and ninetyfive.

Signed, sealed & delivered in presence of }

Abner W. Caverly Seal

Commonwealth of Massachusetts.

Hampton ss. Springfield Jan. 31st 1895, Then the within named Abner W. Caverly, acknowledged the within Instrument to be his free act & deed, before me.

William H. Mc Blintock Justice of the Peace.

Rec^d - Feby 2nd 1895th Reg^d from the original
Attest James R. Wells Register

Commonwealth of Massachusetts

No. 1750.

Whereas, the Holyoke Water Power Company, of Holyoke, in the County of Hampden^{ss} & Commonwealth aforesaid, has been authorized by the General Court, by Chapter 222 of the Acts of the year 1848, & Chapter 6, of the Acts of the year 1859, to construct & maintain a dam across Connecticut River at South Hadley in the County of Hampshire and Commonwealth aforesaid: & before beginning said work, has given written notice to the Board of Harbor and Land Commissioners of the works intended to be done, & submitted, for the approval of said Board, Plans, showing in detail the location & dimensions of said works, & the mode in which the same is to be performed: & whereas due notice of said application, and of the time and place fixed for a hearing thereon, has been given, as required by law, to the Mayor & Alderman of the City of Holyoke and to the Delectmen of the town of South Hadley:

Now, said Board, having heard all parties desiring to be heard, and having fully considered said application hereby approves the Plans for said works hereto annexed, and the mode of performing the same as shown thereby, and hereby authorizes and licenses said works to be done in accordance therewith, subject to the provisions of Chapter 344 of the Acts of 1885 & of the nineteenth chapter of the Public Statutes, and of all laws which are or may be in force applicable thereto.

The works hereby licensed is the building of a stone structure across the Connecticut River between Holyoke & South Hadley Falls, for the

Harbor & Land Comm^{rs}

To

Holyoke Water Power Co.

For Plans See
File 170

BR 533

purpose of widening and strengthening the present dam of said company, all as shown in detail on the accompanying plan No. 1750.

A duplicate of the aforesaid Plan numbered 1750, remains on file in the office of said Board, and said work is to be executed under its supervision.

Nothing herein contained shall be so construed as to impair the legal rights of any person.

This license shall be void unless the same, and the accompanying Plan, are recorded within one year from the date hereof in the Registry of Deeds for the Counties of Hampden and Hampshire.

In Witness Whereof the said Harbor and Land Commissioners have hereto set their hands this twentythird day of January in the year eighteen hundred and ninetyfive.

Woodward Emery } Harbor & Land
John S. Baker } Commissioners

Rec'd. Feb'y 12th: 1895th Reg'd. from the original
Attest James R. Wells. Register

Atchaf Savings Bank
To

Emy L. Newcomb

Know all Men by these Presents: that the Atchaf Savings Bank, the mortgagee within named, does hereby acknowledge to have received full payment & satisfaction of the debt secured by the within Mortgage, given to it by Emy L. Newcomb and recorded in Hampden Co. Registry of Deeds, Book 421 Page 534, and does hereby fully discharge and cancel the same, releasing and forever quitclaiming to said Emy L. Newcomb the mortgagee within named, his heirs and assigns, all right, title, claim or demand on the within described estate, under and by virtue of this mortgage.

Witness the Seal of the Atchaf Savings Bank, and the signature of its Treasurer, this second day of February 1895.

Signed & sealed in presence of
— — —

W. D. Emery (R.D.)
Treasurer Atchaf Savings Bank

Commonwealth of Massachusetts

Worcester ss. Atchaf Feb'y 2, 1895. Then personally appeared the above named W. D. Emery Treasurer, & acknowledged the foregoing discharge to be the free act & deed of the Atchaf Savings Bank Before me
E. V. Wilson Justice of the Peace.

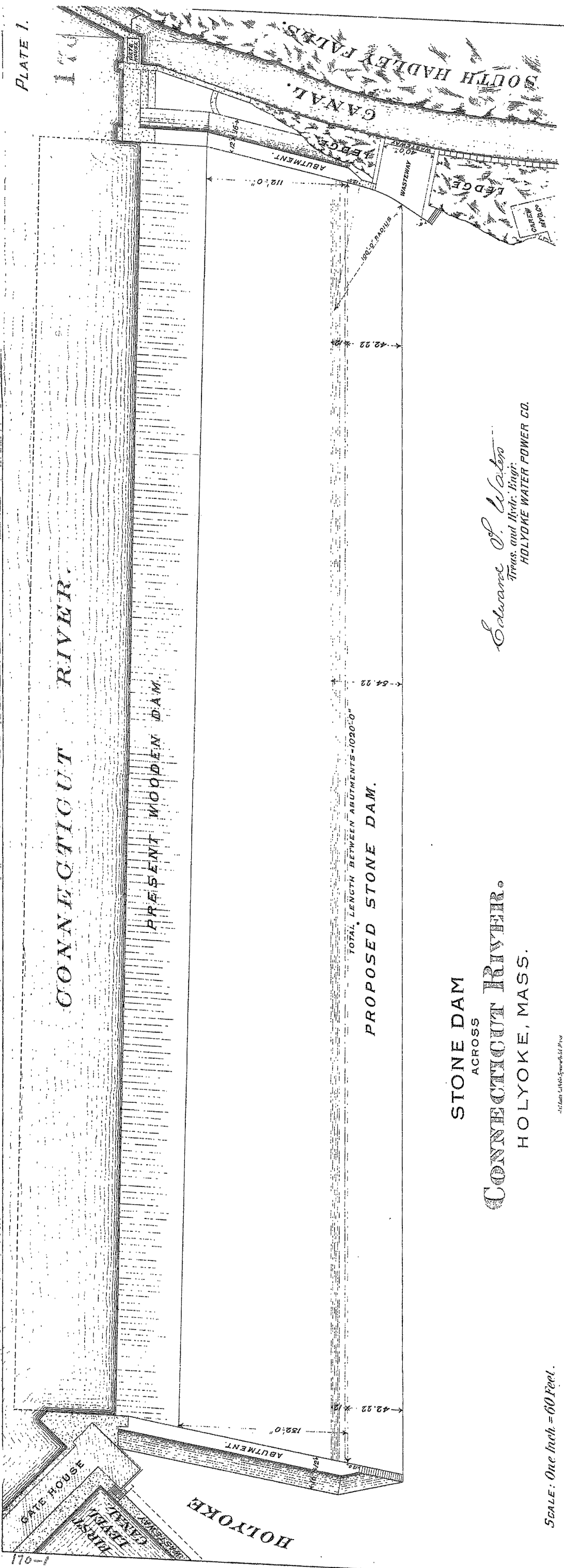
Rec'd. Feb'y 14th: 1895th Reg'd. from the original
Attest James R. Wells. Register.

Atchaf Savings Bk
To

Emy L. Newcomb

Know all Men by these Presents. that the Atchaf Savings Bank, the mortgagee within named, does hereby acknowledge to have received full payment and satisfaction of the debt secured by the within mortgage, given

PLATE I.



CONNECTICUT RIVER.

PRESENT WOODEN DAM.

PROPOSED STONE DAM.

TOTAL LENGTH BETWEEN ABUTMENTS - 1020.0'

STONE DAM
ACROSS
CONNECTICUT RIVER.
HOLYOKE, MASS.

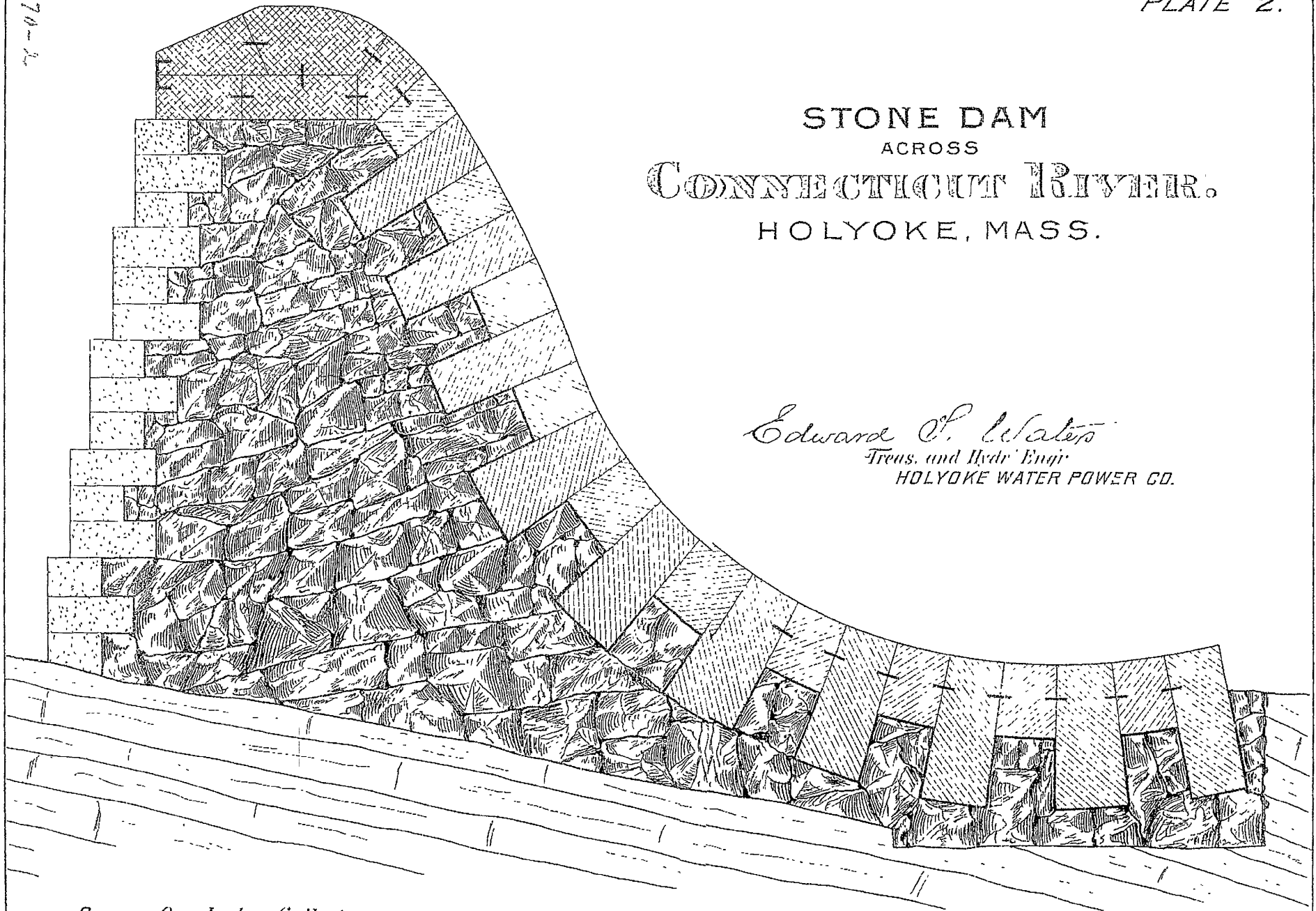
Edward P. Waters
Trans. and Instr. Engr.
HOLYOKE WATER POWER CO.

SCALE: One Inch = 60 Feet.

170-1

STONE DAM
ACROSS
CONNECTICUT RIVER.
HOLYOKE, MASS.

Edward C. Water
Treas. and Hydr. Engr.
HOLYOKE WATER POWER CO.



SCALE: One Inch = 6 Feet.

Copyright 1900 by Edward C. Water

170-17

PLATE 3.

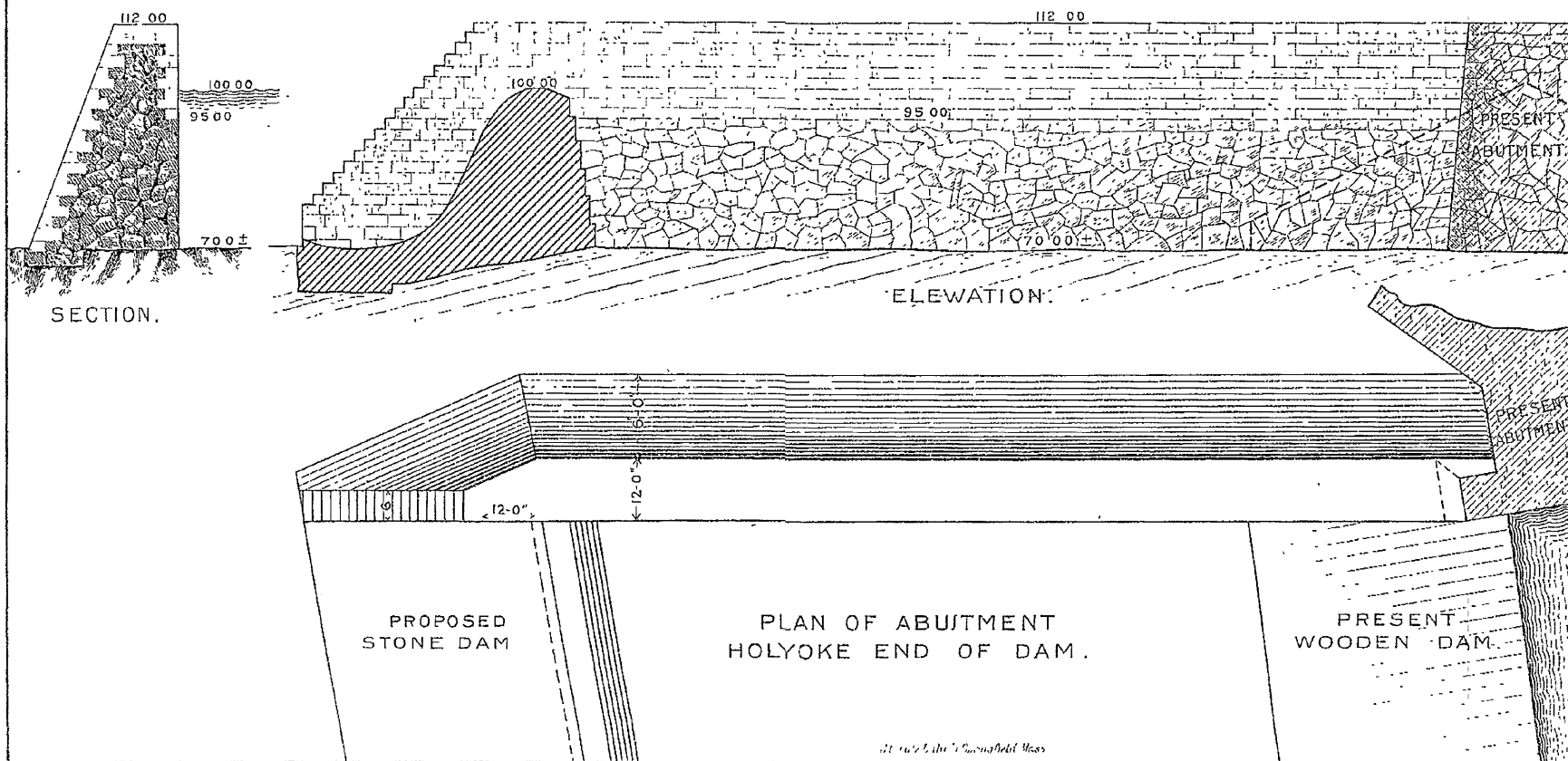
STONE DAM
ACROSS
CONNECTICUT RIVER.
HOLYOKE, MASS.

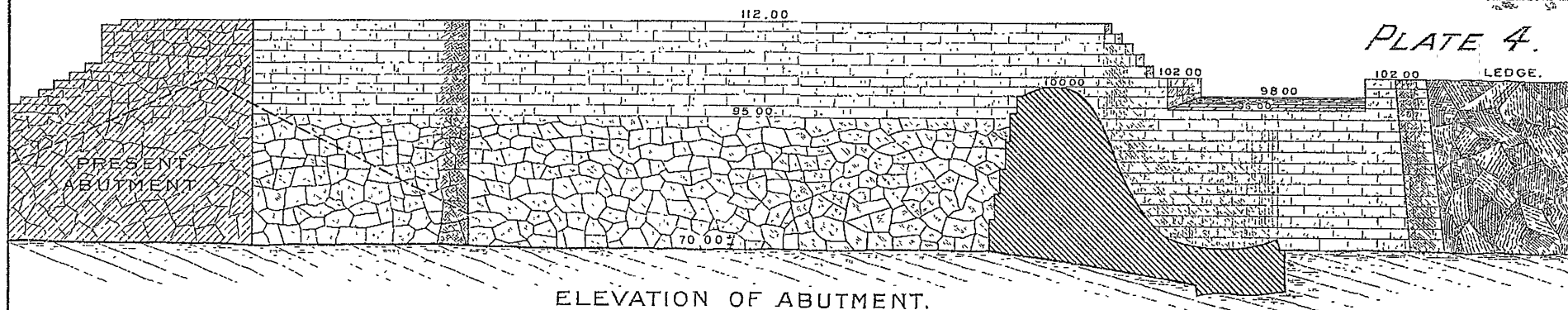
Edward S. Waters

Treas. and Hydr. Engr.

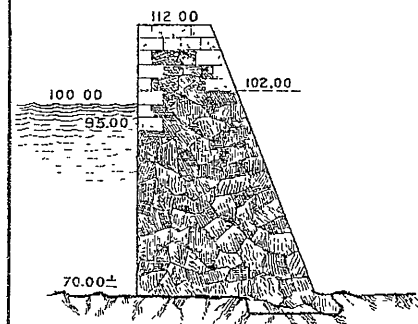
HOLYOKE WATER POWER CO.

SCALE: One Inch = 30 Feet.

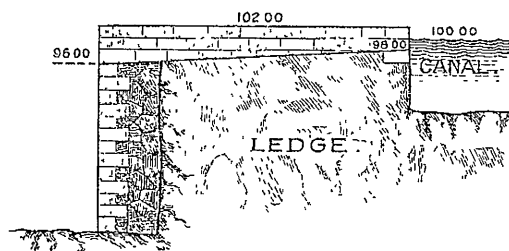




ELEVATION OF ABUTMENT.



SECTION THROUGH ABUTMENT.

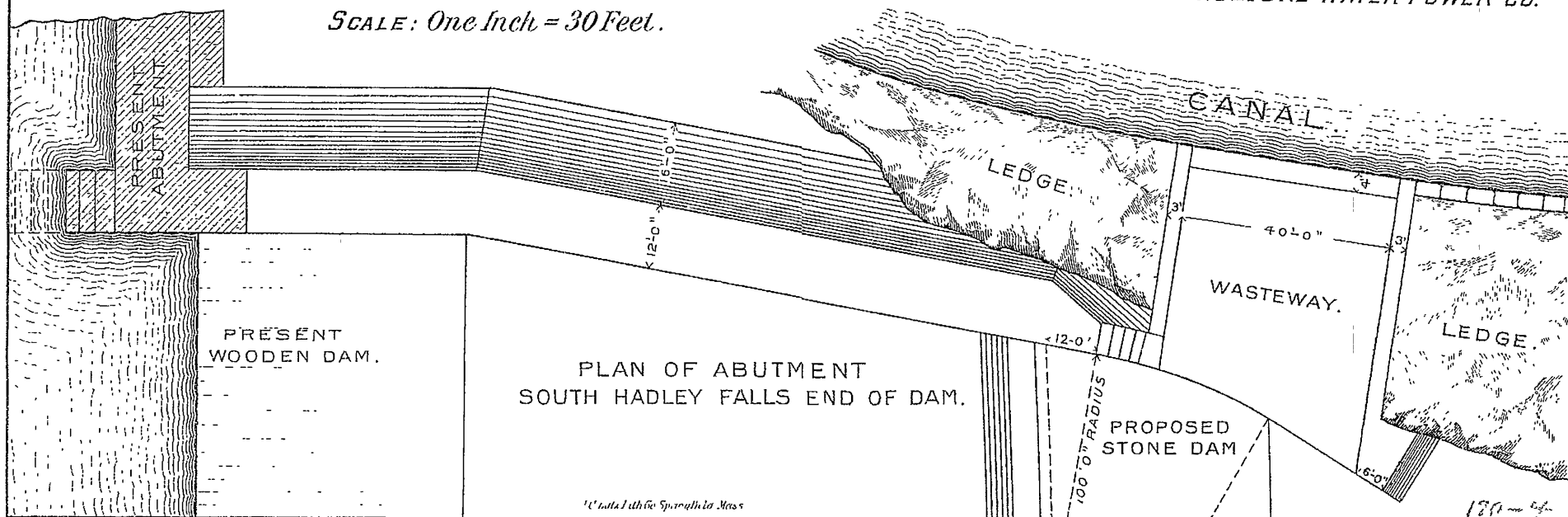


SECTION THROUGH WASTEWAY.

STONE DAM ACROSS CONNECTICUT RIVER. HOLYOKE, MASS.

Edward J. Waters
Treas. and Hydr. Engr.
HOLYOKE WATER POWER CO.

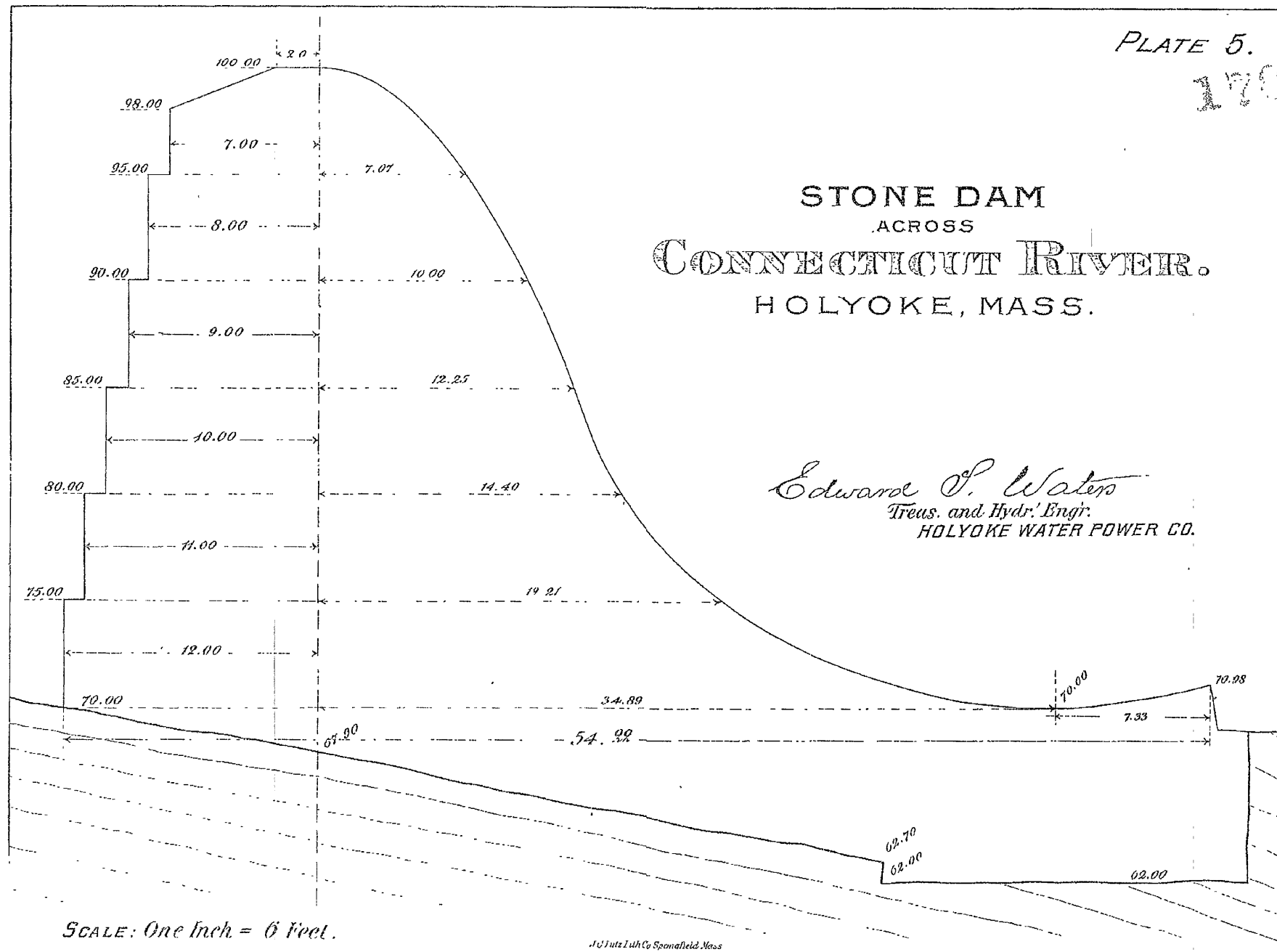
SCALE: One Inch = 30 Feet.



PLAN OF ABUTMENT
SOUTH HADLEY FALLS END OF DAM.

STONE DAM
ACROSS
CONNECTICUT RIVER.
HOLYOKE, MASS.

Edward P. Waters
Treas. and Hydr. Engr.
HOLYOKE WATER POWER CO.



175-5

HAMPDEN COUNTY REGISTRY OF DEEDS

FEB 29 1895

Received

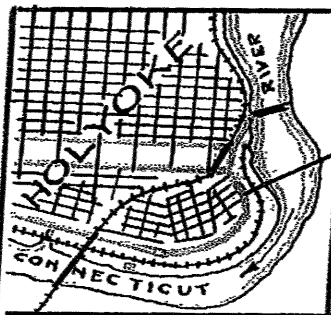
Attest James R. Wells

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533 Page 133.

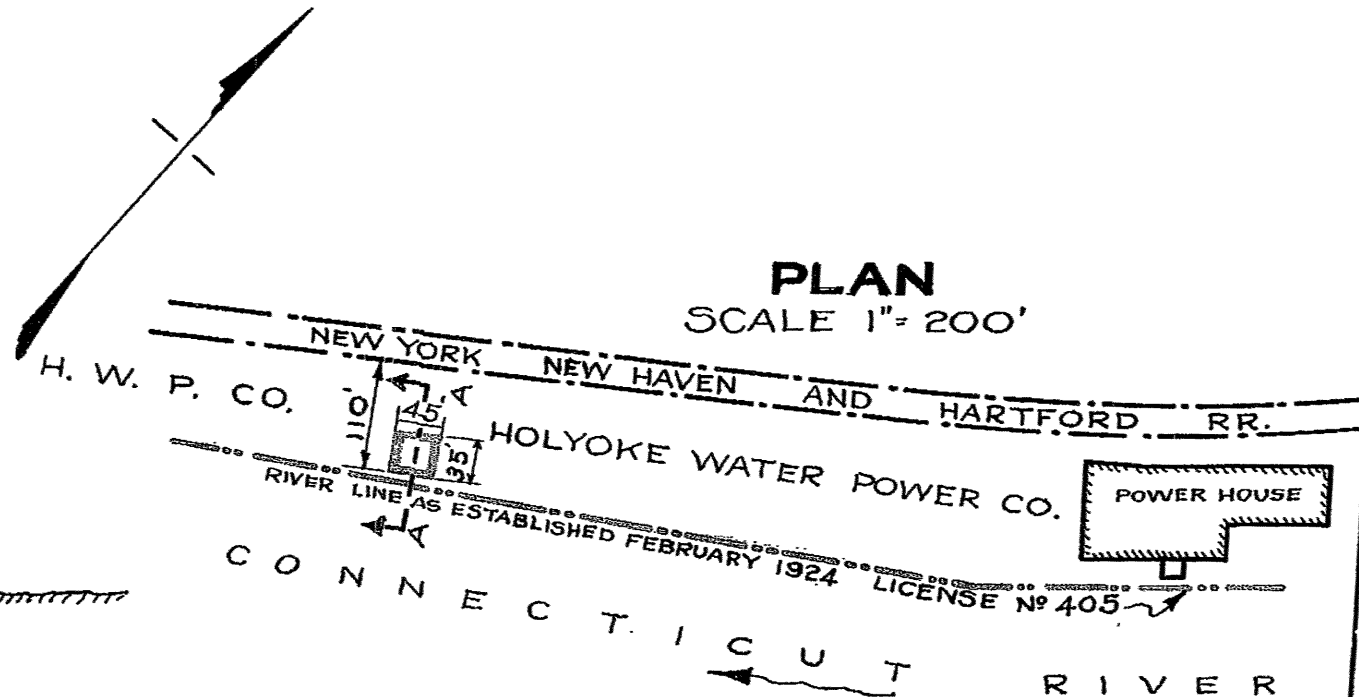
No. 1750.
Approved by Harbor and Land Commrs.
January 23, 1895.

Wm. H. Lacey

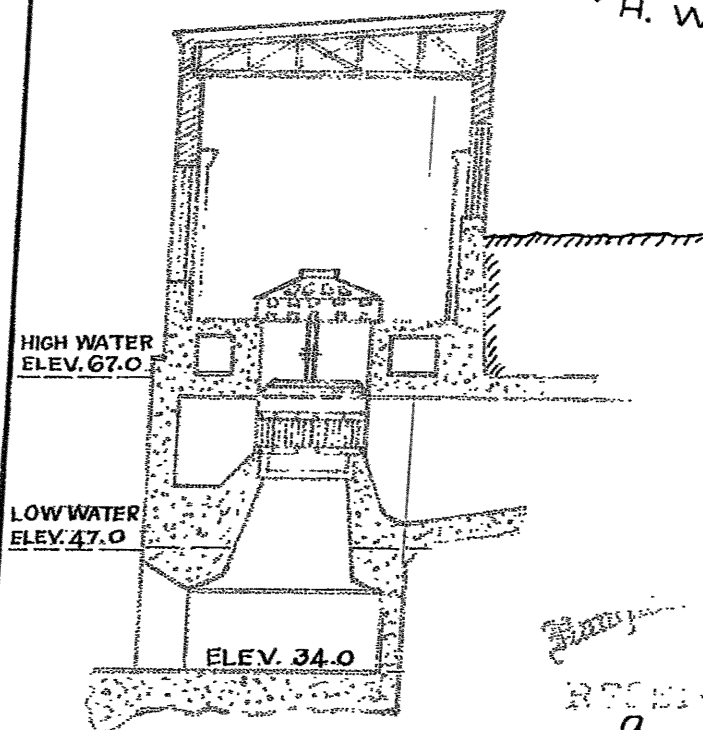
John I. Baker.



KEY MAP TRACED FROM
U.S. GEOLOGICAL SURVEY
SPRINGFIELD SHEET



PLAN
SCALE 1" = 200'



SECTION A-A
SCALE 1" = 20'

PLAN TO ACCOMPANY PETITION OF
HOLYOKE WATER POWER CO.
FOR LICENSE TO BUILD A
HYDRO ELECTRIC PLANT
HOLYOKE, MASS.

JULY 1929

NO. 1046

APPROVED BY DEPARTMENT OF PUBLIC WORKS

JULY 30 1929

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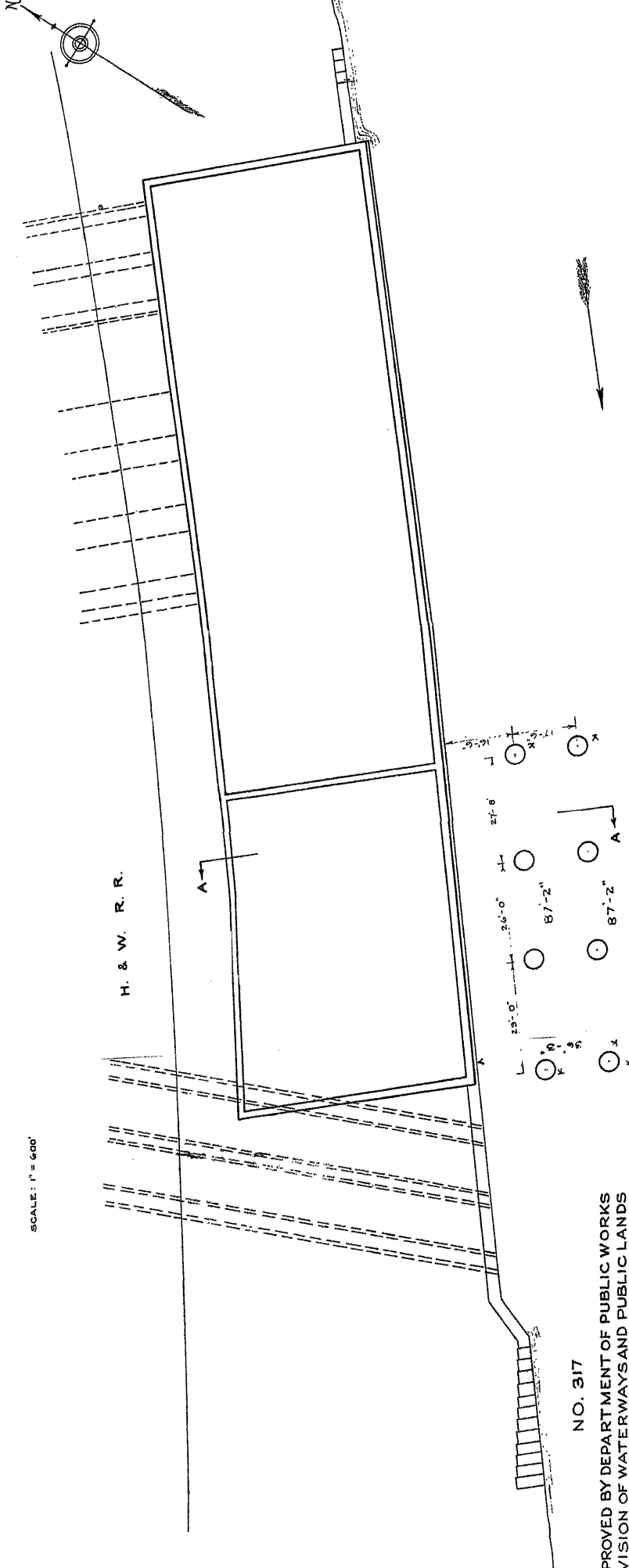
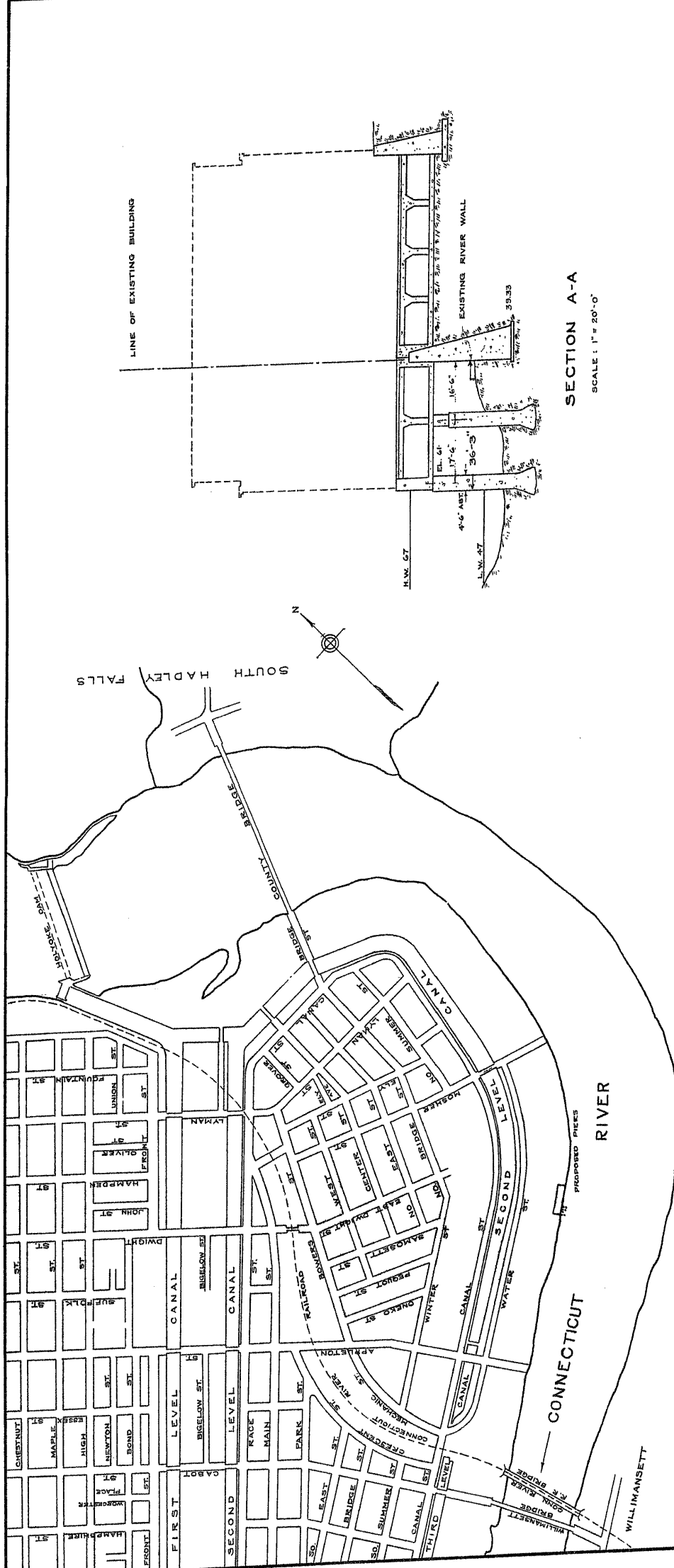
9

35

A.M.

Plans 8 Page 69

Frederick W. ...
COMMISSIONER OF
PUBLIC WORKS
Richard ...
ASSOCIATE
COMMISSIONERS



PLAN
TO ACCOMPANY PETITION
OF
HOLYOKE WATER POWER CO.
FOR LICENSE TO BUILD AN
EXTENSION TO ITS
POWER HOUSE
ON THE
CONNECTICUT RIVER
HOLYOKE, MASS.
HOLYOKE WATER POWER CO.
MARCH 1, 1923.

CONNECTICUT RIVER
12179
SCALE: 1" = 20'-0"

NO. 317

APPROVED BY DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATERWAYS AND PUBLIC LANDS

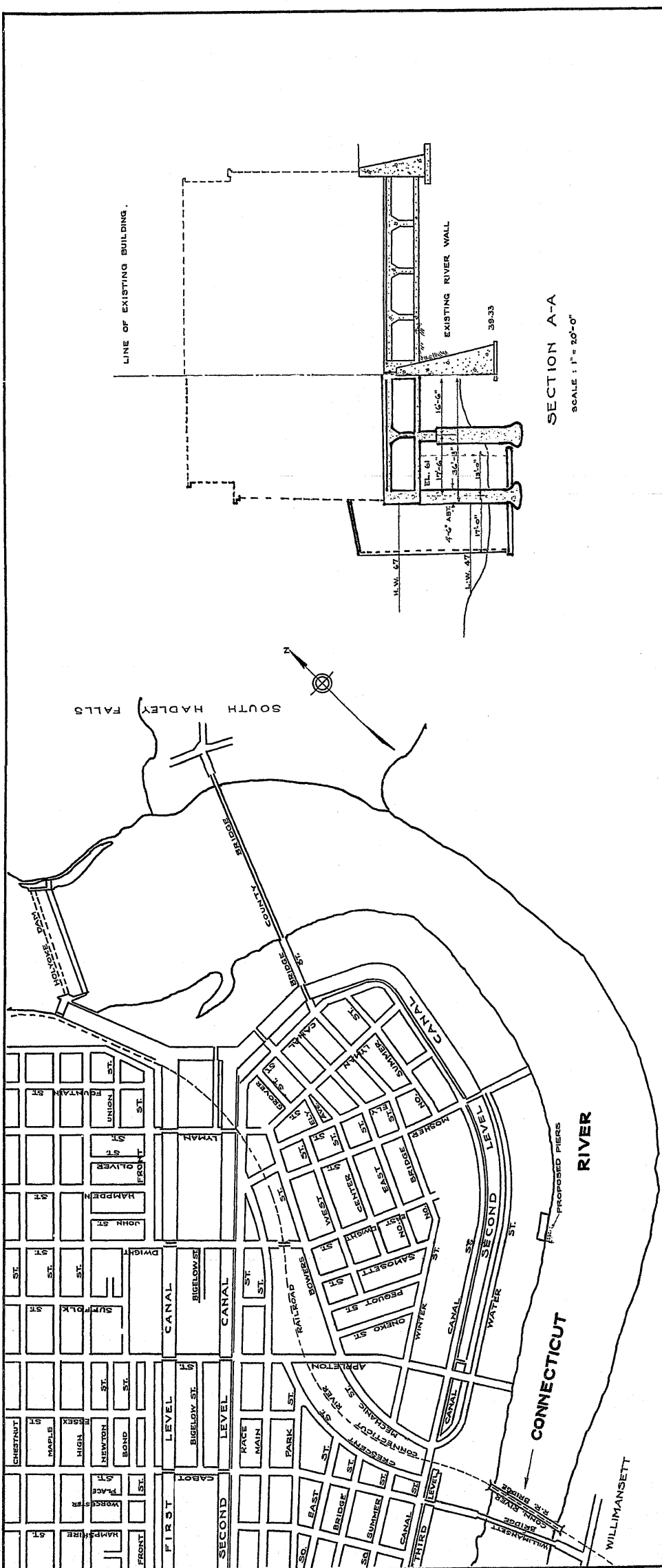
MAY 17, 1923

William J. McLaughlin
Richard A. B. White

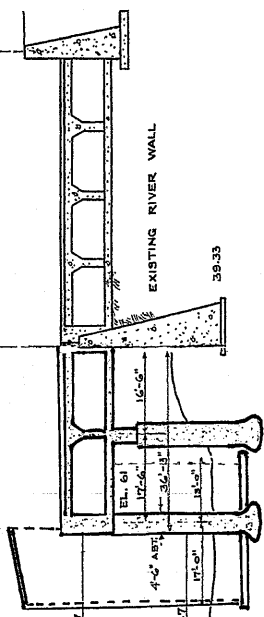
APPROVED

William J. McLaughlin
COMMISSIONER OF PUBLIC WORKS

4 30 8 M
Plans O. Page 52

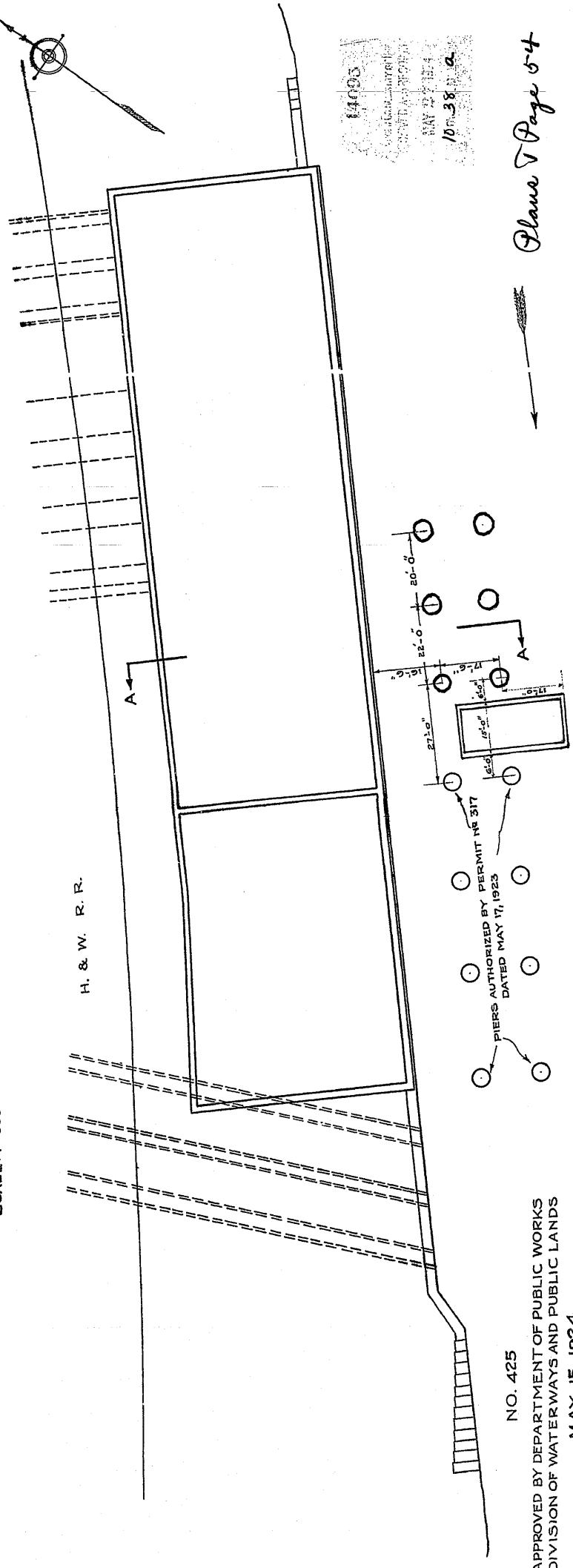


LINE OF EXISTING BUILDING.



SECTION A-A
SCALE: 1" = 20'-0"

SCALE: 1" = 600'



NO. 425

APPROVED BY DEPARTMENT OF PUBLIC WORKS
DIVISION OF WATERWAYS AND PUBLIC LANDS
MAY 15, 1924

William F. Williams
James B. Brewster
Richard M. Rice

APPROVED

William F. Williams
COMMISSIONER OF PUBLIC WORKS

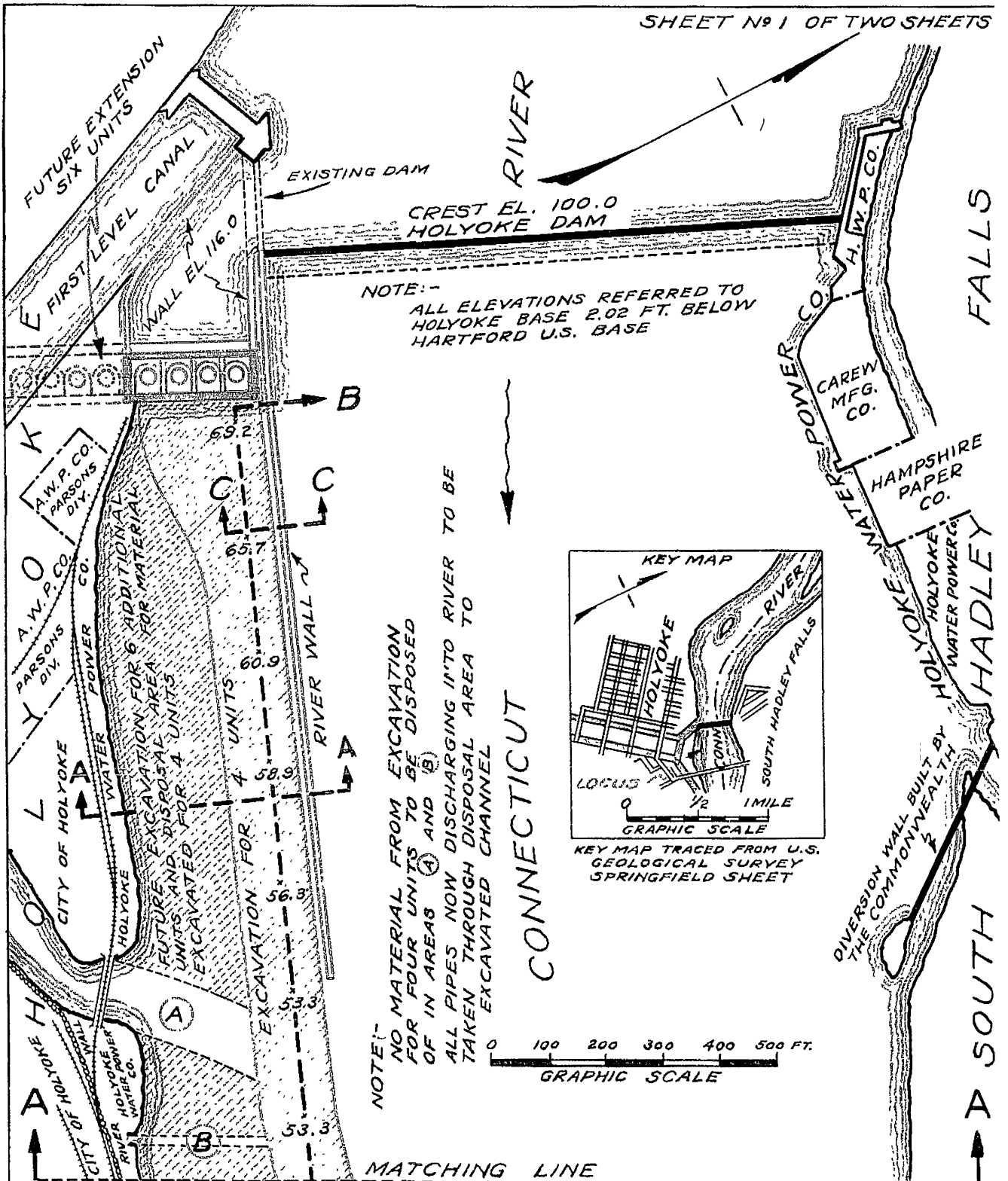
SCALE: 1" = 20'-0"

CONNECTICUT RIVER

PLAN OF
PROPOSED FOUNDATION
IN
CONNECTICUT RIVER
FOR LICENSE TO BUILD AN
EXTENSION TO ITS
POWER HOUSE
ON THE RIVER
IN
HOLYOKE, MASS.
HOLYOKE WATER POWER CO.
APRIL 10, 1924 J.A.W.

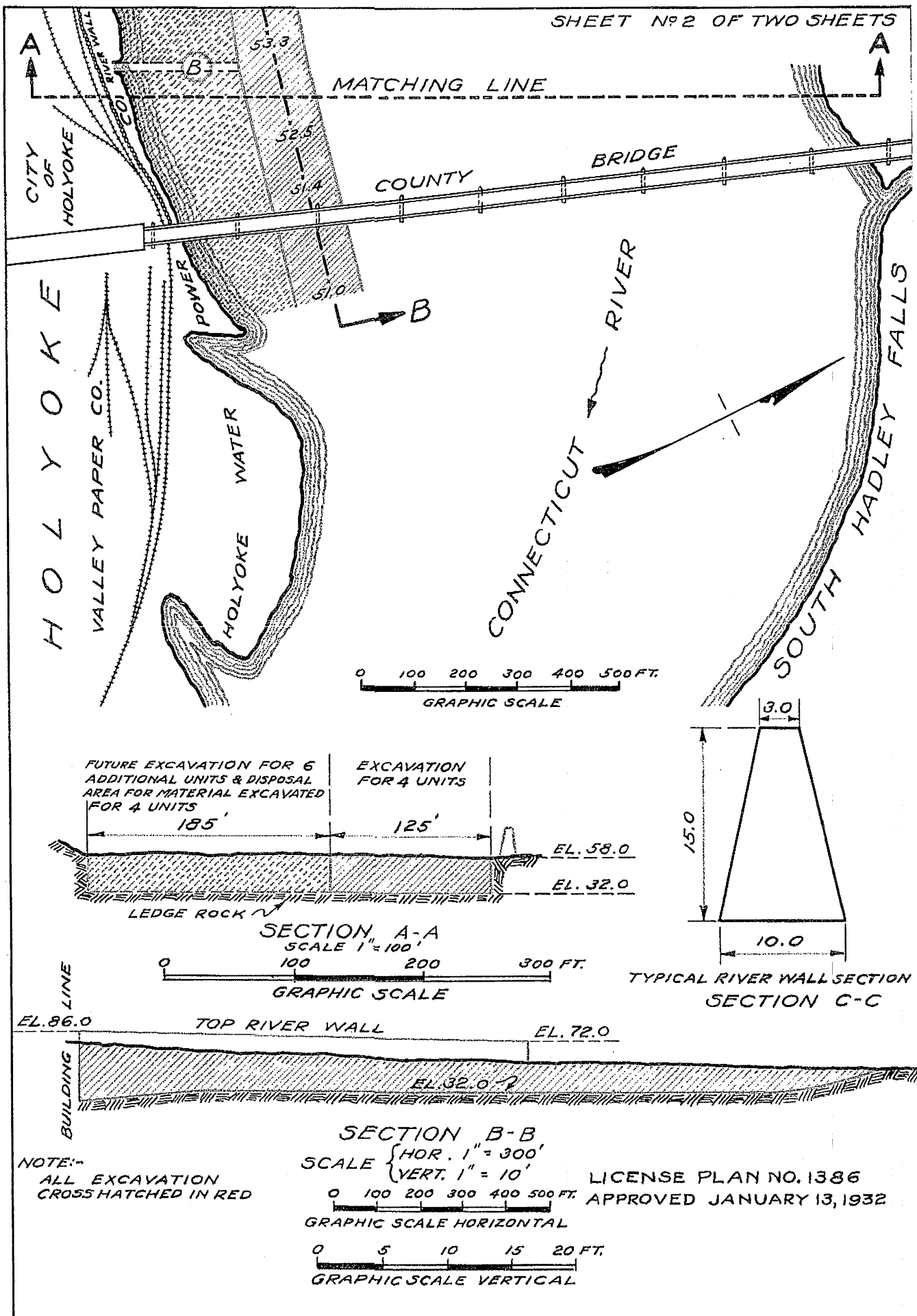
Plane T Page 54

14003
MAY 27 1924
10m38 2



Plans 12 Page 58

2025 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025



Plans 12 Page 58

11

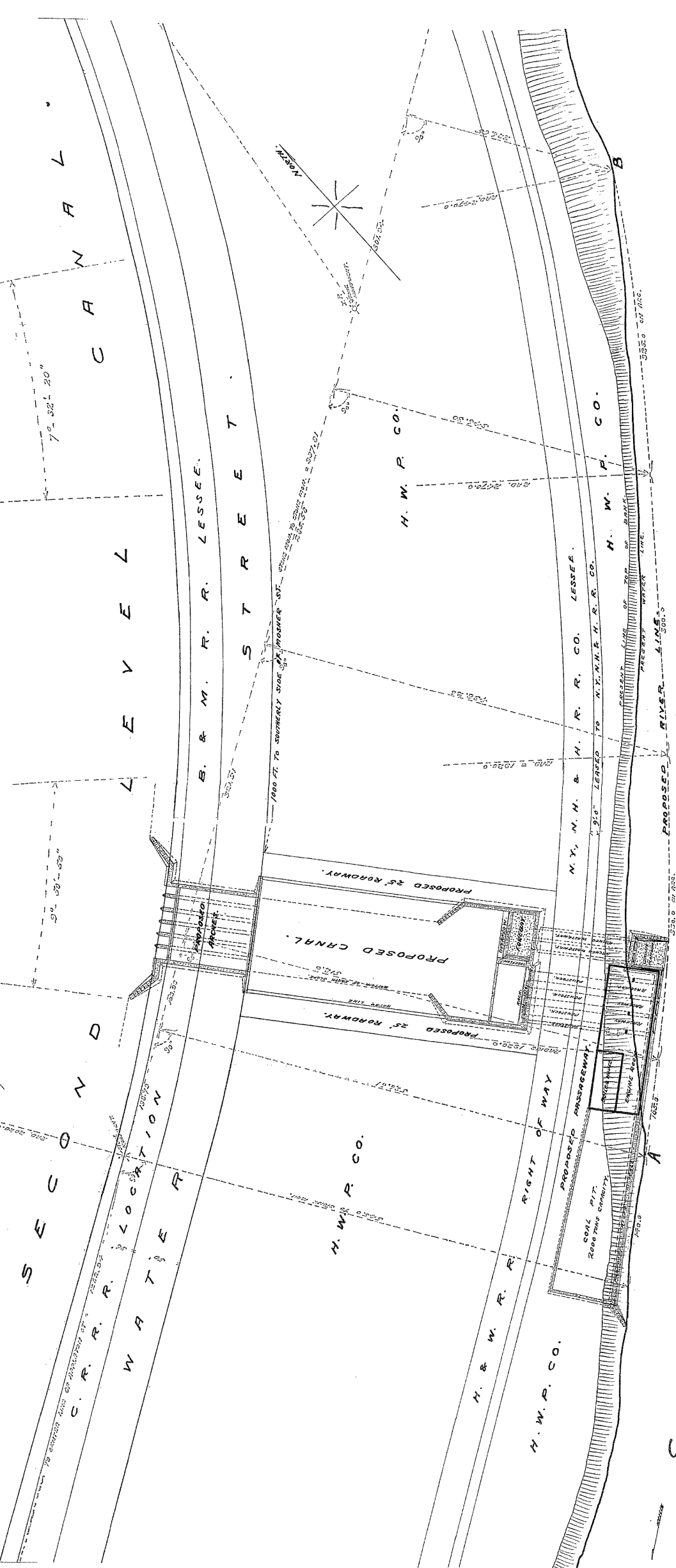
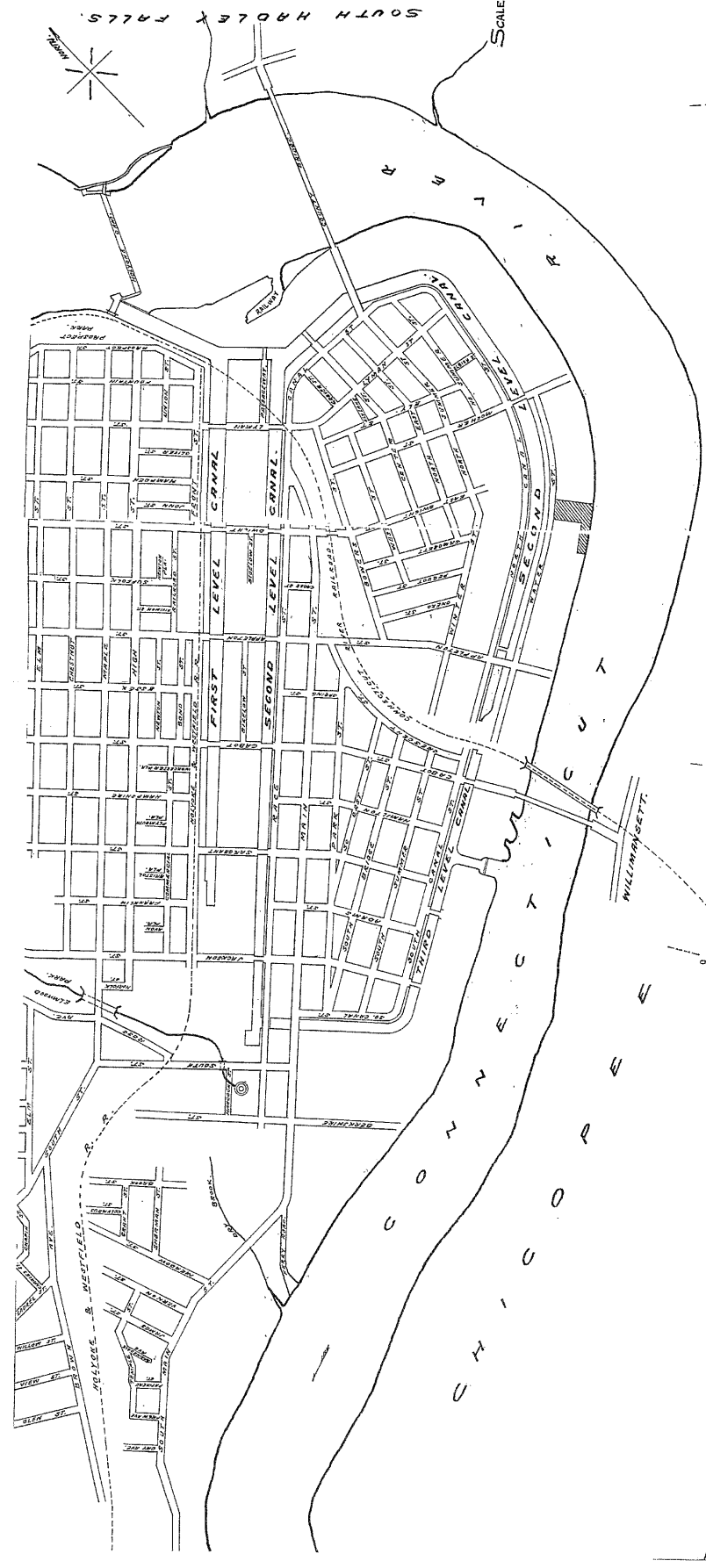
114 18 1932

11 - a

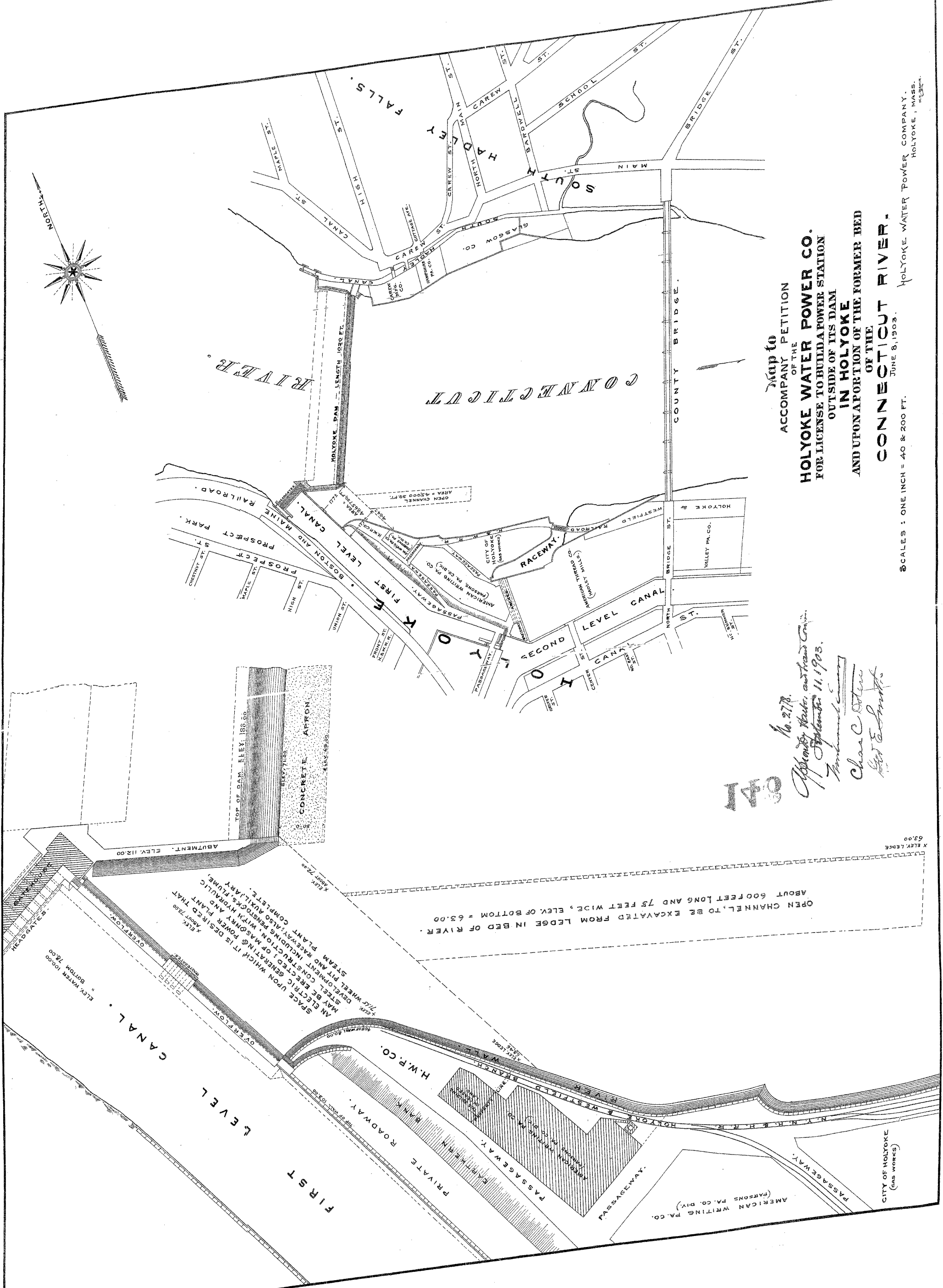
Map to
ACCOMPANY PETITION
OF THE
HOLYOKE WATER POWER CO.
FOR LICENSE TO BUILD AND EXTEND
THE SHORE WALL BELOW HIGH WATER MARK
OF THE
CONNECTICUT RIVER
IN
HOLYOKE
MASS.

HOLYOKE WATER POWER CO.
LAND ENGINEERING DEPT.
No. 2961,
Approved by Mayor and Board of
May 17, 1905.
Chas. C. Botwin
Geo. E. Smith

SCALE: ONE INCH = 50 & 600 FEET.



CONNECTICUT RIVER

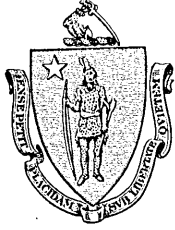


Map to
ACCOMPANY PETITION
OF THE
HOLYOKE WATER POWER CO.
FOR LICENSE TO BUILD A POWER STATION
OUTSIDE OF ITS DAM
IN HOLYOKE
AND UPON A PORTION OF THE FORMER BED
OF THE
CONNECTICUT RIVER.

SCALES : ONE INCH = 40 & 200 FT.

HOLYOKE WATER POWER COMPANY.
HOLYOKE, MASS.

No. 277.
Approved by State, and passed Com.
September 11, 1903.
Char. C. Butler
Geo. E. Smith



The Commonwealth of Massachusetts
Department of Public Works

State House, Boston, December 14, 1931.

* Notice is hereby given that the Holyoke Water Power Co., has made application to the Department of Public Works for license to remove a portion of an existing dam, to extend its present dam, to build and maintain a power house and river wall, to excavate a channel and fill solid, in Connecticut River, at its property in the city of Holyoke, as per plans filed with said application; and Wednesday, the 6th day of January, 1932, at 2:00 o'clock, P.M. and this office, have been assigned as the time and place for hearing all parties interested therein.

For the Department,

FRANK E. LYMAN,

Commissioner of Public Works.

* This application is for a license in substitution for license No. 745, granted December 30, 1926, under which no work has been done.

December 16, 1931

Frank E. Lyman, Commissioner,
Department of Public Works,
State House,
Boston, Mass.

Dear Mr. Lyman:

The County Commissioners acknowledge receipt of your notice of December 14th that a hearing will be held in your office on Wednesday, January 6, 1932, at 2 o'clock P. M. on the application of the Holyoke Water Power Company to the Department of Public Works for license to remove a portion of an existing dam, to extend its present dam, to build and maintain a power house and river wall, to excavate a channel and fill solid, in Conn. River, at its property in the city of Holyoke.

Very truly yours,

COUNTY COMMISSIONERS

By _____
Chairman.

S/N

MEMBER
AM. SOC. C. E.
INST. C. E. GREAT BRITAIN
ENG. INST. OF CANADA

JAMES L. TIGHE

CONSULTING ENGINEER
CALEDONIAN BUILDING, 189 HIGH STREET
HOLYOKE, MASS.

TELEPHONE 790

MEMBER AM. INST. OF CONSULTING ENGINEERS, INC.

MEMBER
BOSTON SOC. C. E.
ENG. SOC. WEST. MASS.
AM. & N. E. W. W. ASSOC'S

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
ANALYSIS OF WATER

WATER POWER INVESTIGATIONS
AND DEVELOPMENT
DAMS AND POWER INSTALLATIONS
ESTIMATES AND APPRAISALS

December 22, 1931

The Hon. The Board of County Commissioners
Hampden County, Springfield, Mass.

Mr. Edward J. Stapleton, Chairman:

Dear Sir:

In regard to the application dated December 14th, 1931 of the Holyoke Water Power Company to the Commonwealth of Massachusetts (Department of Public Works) for license to remove a portion of an existing dam, to extend its present dam, to build and maintain a power house and river wall, to excavate a channel and fill solid, in Connecticut River, at its property in the City of Holyoke etc., I beg to state that because the development proposed will be within the established lines of the river-bed a license to use such a location must be first obtained from the Commonwealth.

Such a license had been obtained in 1926 and the present application is for an extension of the time granted then in which to do the work.

The Holyoke Water Power Company will in due time file with the County for approval plans and specifications of the changes to be made in the dam.

Respectfully submitted,

James L. Tighe

BOARD OF PUBLIC WORKS
RALPH H. ALDEN, CHAIRMAN
W. LEE COSTIGAN WILLIAM H. COONEY
G. H. RESELY, ENGINEER
AND DEPUTY CLERK
J. J. Sullivan



ADMINISTRATION BUILDING
ROOM 410

THE CITY OF
SPRINGFIELD, MASSACHUSETTS

February 17, 1948

Commissioners for the County of Hampden
37 Elm Street
Springfield 3, Massachusetts.

Gentlemen:

At a flood control hearing held in this office on Monday, February 16, 1948, one of the questions discussed was the status of the Holyoke dam. It was recalled that repairs and reinforcements were made after the 1936 flood.

When this information was dispensed to the assembled group, one of our local councilmen raised the question as to whether or not periodic inspections are made by your county engineers. Inasmuch as no one at the hearing could answer that question, this Board was requested to obtain the following information from your Commission.

1. When was the last inspection of the Holyoke dam made by County Engineers?

2 Can we be furnished with a copy of this inspection report?

3 If an inspection has not been recently made, when does your Commission anticipate the dam will be inspected?

These were some of the questions raised in connection with this flood control hearing on which this Board is expected to report back to the Council members.

Commissioners for the County of Hampden
Springfield 3, Massachusetts.

- 2 -

We certainly will appreciate your cooperation in
furnishing us with the aforementioned information.

Very truly yours,

BOARD OF PUBLIC WORKS,

Ralph H. Alden

RALPH H. ALDEN, Chairman

RHA:JJS:egs

February 19, 1948

Ralph H. Alden, Chairman,
Board of Public Works,
Springfield, Mass.

Dear Mr. Alden:

Your letter of February 17, 1948
inquiring as to the status of the Holyoke Dam,
received.

In answering your No. 1 and No. 2
questions, the Holyoke Dam was inspected Nov. 25,
1947, and inasmuch as our engineer, Mr. Philip E.
Bond of Holyoke, found nothing about the Holyoke
Dam that needed attention, no report has been turned
in to our office.

You will recall that after the 1936
flood, the wing walls and cut-off walls on the
Holyoke end and the South Hadley end were raised
above the 1936 flood level and that the crest of
the dam was repaired by concrete work at that time.

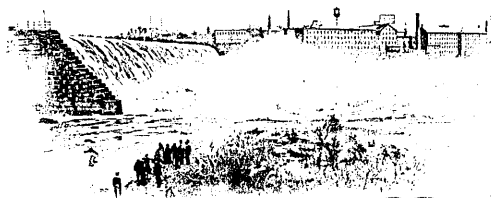
The Commissioners are pleased to co-
operate with your Board at any time.

Very truly yours,

COUNTY COMMISSIONERS

By _____
Chairman.

CWB/N



Holyoke Water Power Co.

ESTABLISHED 1859

HOLYOKE, MASSACHUSETTS

ROBERT E. BARRETT, JR.
PRESIDENT

December 22, 1948

County Commissioners
Hampden County
Springfield, Massachusetts

Gentlemen:

The Holyoke Water Power Company has before the Federal Power Commission an application for a license to construct a new hydro-electric power plant at the Holyoke Dam and to continue the operation of the present canal system.

That application states the proposed scheme of development also includes the possibility of installing flashboards or other equally effective or appropriate means of control, to be operated so as to create a pond level of such height as will be economically justified.

We can now tell you that it is our plan to make no change in the existing arrangement of the flashboards on the dam for the operation of the first 15,000 kilowatt unit of the new hydro-electric plant.

Any future proposal to make a change in the long-established existing flashboard arrangement which would effect the river stages or discharges will be submitted to the appropriate authorities for approval and we would expect that before the granting of such approval all interested parties would have an opportunity to be heard.

Yours very truly,

A handwritten signature in cursive script that reads "Robert E. Barrett Jr.".

President

REBJr:hn

Lake Bray Dam



1926 Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds. Located in Mount Tom State Reservation. See also: County Roads Plan #8 (1957) "Dam - Bray Reservoir".

Abutters	Massachusetts Comm
Abutters	Mt. Tom Reservation
City/Town	Holyoke
Dam	Bray Pond Dam
Dam	Bray Reservoir Dam
Name	Hampshire County Commissioners
Name	Hampden County Commissioners
Streets	Route 202
Water	Bray Pond
Water	Bray Lake

February 3, 1926

Mr. N. Seelye Hitchcock, Chairman,
Mt. Tom State Reservation Commission,
Court House,
Northampton, Mass.

Dear Sir:

In accordance with the provisions of Section 45 of Chapter 253 of the General Laws as amended by Chapter 334 of the Acts of 1923 and as further amended by Chapter 178 of the Acts of 1924 relative to the inspection, condition and safety of the dams of Hampden County, you are notified that the State Reservation Dam (Bray Lake) has been inspected by our engineer and your attention is called to the following recommendations made by him:

"About one-half mile upstream from the Kennedy dam, and three-quarters of a mile northwest of Smith Ferry, at a point where the drainage area contributory is one and one-half square miles, is a dam on the State Reservation which forms Bray Lake.

This structure is an earthen embankment four hundred and sixty feet in length and nine feet in height. Its top is eighteen feet in width and used as a roadway. The overflow, which is located one hundred and thirty-two feet from the north end of the dam, is twelve feet in length, and its crest five feet below the top of the embankment.

The retaining walls of the overflow are in poor condition, being cracked, and with the north wall falling in. It is recommended that these retaining walls be repaired.

Now, therefore, in accordance with Section 46 of said Chapter 253, it is ordered that the above recommendations be complied with in a reasonable time.

Yours very truly,
COUNTY COMMISSIONERS

Chairman.

Bray Pond Dam

The Bray Pond dam located in the Reservation is found to have some undercutting of the concrete end wall at the base of the spillway pipes. This undercut is not serious but it should receive attention during 1955 to prevent the condition from becoming more serious. The necessary repairs are very minor from a man hour and dollar viewpoint and could probably be included in the regular maintenance work for 1955.

The above copied from letter dated Dec. 31, 1954 to The Honorable the Board of County Commissioners from George H. McDonnell, County Hydraulic Engineer.

January 5, 1955

Board of Water Commissioners
City Hall
Holyoke, Massachusetts

Gentlemen:

In accordance with the provisions of Chapter 253, Section 45 et seq. of the General Laws, Tercentenary Edition, relative to the inspection, condition and safety of the dams of Hampden County, you are hereby advised that your Bray Reservoir dam, located off of Route 202, near Ashley Ponds, has been recently inspected by our Engineer, and your attention is called to the following conditions noted and recommendations made by him:

"Scrub growth and wildbrush growing on the surface of this earth filled dam should be cut down and cleared from the structure. This is not of an emergency nature but should be included in the maintenance program of 1955.

Any further information concerning this matter which you may desire will be furnished by this office upon request.

Very truly yours

COUNTY COMMISSIONERS

By _____
Chairman

COPY

COD

November 9, 1955

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Mass.

Gentlemen:

On Monday, November 7th, the undersigned met with Mr. Scott and another representative of the Department of Public Works of the Commonwealth of Massachusetts, relative to the repairs to the road and dam at Bray Lake in the Mount Tom Reservation area.

Mr. Scott had prepared preliminary sketches of a proposed spillway for Bray Pond and for repairs to the road forming the dam. We discussed the design, construction methods, and the specifications for the earth fill in the dam and for the repair of the wooden core. Following the conference, we were all in agreement on the work to be done, and according to the schedule as proposed by Mr. Scott, it is expected that the project will be forwarded to Boston by Wednesday night, November 9th, for review and consideration by the Boston officials.

Knowing that you are anxious to at least repair the road immediately and to have the spillway completed shortly thereafter, so that the access road to the Reservation will be available for late fall use and the Pond in the Reservation will be available for winter use, it is suggested that on or after Thursday, November 10th, a request be placed with the Boston officials to expedite their part in the work.

Very truly yours,

GHM/cmm

George H. McDonnell
County Hydraulic Engineer

original of this letter filed in Mt. Tom State Reservation folder.

December 28, 1955

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Mass.

Gentlemen:

In accordance with your request, I have discussed conditions at Bray Lake in the Mount Tom State Reservation with Stanley Haber of the Haber Sand & Gravel Company, low bidder on the work of repairing the roadway and dam at the said Bray Lake. As of this date, Mr. Haber still does not have a contract for the construction of the dam and roadway. He is low bidder on the work and expects that shortly he will be notified of an award of the contract.

In regard to skating at the Lake, Mr. Haber feels that any skating provided for could be detrimental to him in the conduct of his work. He agrees that a low sand bag dam could be built upstream from the area in which the new work will be constructed. However, it is the feeling of Mr. Haber that the construction of a temporary small dam upstream of his work area will not be too detrimental to him but that the traffic caused by skaters going to and from the improvised skating area, both on foot and in vehicles, will cause a slow-down of his work, particularly the movement of his trucks, cranes and other equipment. He claims that he has planned his work so that there will be no obstacle in his way insofar as traffic is concerned.

Perhaps this traffic problem could be solved by signs and by special personnel assigned to traffic duty in the vicinity of the construction area during construction hours. I believe that if the traffic problem can be properly controlled, Mr. Haber would not seriously object to the temporary construction of a small skating area. If it is agreeable with your Board to provide whatever personnel will be necessary to keep vehicles and persons out of the way of the Contractor, I would think that your Reservation personnel might construct a small sand-bagged dam upstream of the work area and that by ponding two or three feet of water, a sufficiently large skating area could be provided to satisfy the needs of a reasonably large group of persons.

Very truly yours,

by _____
George H. McDonnell
County Hydraulic Engineer

GHM/cmm

COPY.

CD Holyoke
May 31, 1956

Commonwealth of Massachusetts
Department of Public Works
Waterways Division
100 Nashua Street
Boston, Mass.

Gentlemen:

The dam at Bray Pond in the Mt. Tom Reservation in Holyoke will probably be repaired shortly and it is my understanding that this work is to be done by private contractors in accordance with plans and specifications prepared by the Department of Public Works. I presume that your Division has probably worked upon this project. Since the dam is located within Hampden County, it is desirable that a set of the plans and specifications be on file at the County Commissioners' office and be available for use by the undersigned.

Will you kindly send the undersigned a copy of these plans and specifications. If you do not have a set or if they are available elsewhere, will you kindly let me know what office I should write to in order to obtain them.

Very truly yours,

COPY

George H. McDonnell
County Hydraulic Engineer

GHM/f

COPY

CD Holyoke

July 13, 1956

Haber Sand & Gravel Co.,
Ferry Street
South Hadley, Mass.

Gentlemen:

It is my understanding that you are the Contractor for the repair and reconstruction of the Bray Dam at Mt. Tom State Reservation, in Holyoke.

I inspected the site of the work today and found that no work was progressing on the repair of the dam. I believe that you intend to begin work in the very near future and wish to call your attention to the fact that the workmanship on this dam must meet the requirements of the County Commissioners of Hampden County.

The undersigned, as County Hydraulic Engineer, will inspect your work from time to time and will be available for conferences with you as necessary, with the exception of the period from July 14th thru July 29th, when I will be on vacation. If you plan to begin construction work between now and July 29th, kindly notify this office, particularly Mr. Sheridan so that inspection of your work may be planned.

If your work will not start until after July 30th then I will arrange to meet you at the site, when you notify me that work on the project will be started.

Very truly yours

GHM/cmb

COPY

George H. McDonnell
County Hydraulic Engineer

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

TIGHE & BOND, Inc.
CONSULTING ENGINEERS
—189 HIGH STREET—
HOLYOKE, MASSACHUSETTS
GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

→ NOTE: OUR NEW ADDRESS ←
BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS

CD-Holyoke
July 13, 1956

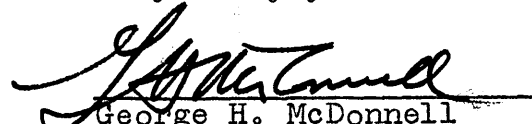
The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

As of this date no work has been started
on the repair to the Bray Pond Dam at Mt. Tom State
Reservation.

I have sent a letter to Haber Sand & Gravel
Company relative to their work on this structure. A
copy of this letter is enclosed herewith for your file
and information purposes. This letter is self explanatory.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

CD Holyoke

Aug. 13, 1956

The Hon. the Board of County Commissioners
Hampden County Court House
Elm St.
Springfield, Mass.

Gentlemen:

During the past week I have kept in touch with the progress being made on the reconstruction of Bray Pond Dam in the Mt. Tom Reservation. Work is progressing satisfactorily and I have discussed various phases of the work from time to time with the Contractor, his personnel and the inspector on the job for the Department of Public Works.

The quality of the work is such that the work completed to date is satisfactory and of good workmanship.

Very truly yours,

George H. McDonnell
County Hydraulic Engineer

GHM/mdb

CD-Holyoke

Dec. 4, 1956

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

I have inspected the dam at Bray Lake, at the Mt. Tom Reservation and note that there is settlement on the dam in the vicinity of the new spillway tube. The surface of the roadway is settling and the asphaltic concrete surface has cracked. When the dam was last inspected, on Nov. 17, 1956, there was no settlement apparent. At that time the pond had only started to fill and the depth of water was but a very few feet. When inspected today the pond was full to the spillway level. It is possible that the Contractor in constructing the embankment did not thoroughly compact the fill in this location. The saturation of the soil may have resulted in a movement of the soil particles and the settlement of the fill.

I did not observe the new conduit to determine if there is any apparent movement of this tube that might have contributed to the settlement. In any event, it would seem advisable to notify the Department of Public Works of the settlement. This condition will be inspected by the undersigned, from time to time. Following the Winter months a permanent repair can be made to the fill and the sunken roadway pavement. In the meantime temporary repairs should be made and remade as necessary during the Winter depending upon continuation of the settlement.

The crest or top of the new spillway shaft is at approximately the same grade as the invert of the old spillway tubes. In my opinion this is the proper grade for the establishment of the new spillway crest.

The pond level, at the present time, is at normal Winter level, based upon past experience. I checked this fact with Mr. Knox, Superintendent of the Reservation.

In the Summertime it has been customary to raise the level of the pond by placing boards in front of the old tube spillway and installing a screen on top of the boards. The Superintendent informed me that ordinarily the boards placed were 10-inches, more or less, in height. An examination of the present structure as compared to evidence of normal high water shoreline shows a variation of from about one foot to eighteen inches.

In the Springtime when fish are placed in the Lake, the flashboards can be replaced in front of the old tube spillway and a simple flashboard arrangement can be installed on the new shaft spillway. This flashboard arrangement should be such that it will fail in time of high water and it can be removed easily by Reservation personnel upon warning of possible major storms.

It is not recommended that the vertical shaft be raised with masonry. Such a procedure would defeat the purpose of providing sufficient freeboard to properly protect Lake Bray dam.

It would be possible to install one foot or even two feet of flashboards at the new spillway this coming Spring. These boards can be made and installed by Reservation personnel.

In regard to the coarse rack on the surface of the vertical shaft, I don't recommend that this rack be altered in any way by the installation of fine mesh screen or grill work. This spillway shaft should be maintained with openings as large as possible to prevent the plugging of the shaft by flood washed debris. In fact, in time of storm warning the movable sections should probably be removed from the top of the vertical shaft to provide a free and unobstructive opening for the flood water.

In regard to access at the gate operating mechanism, this gate will probably only be operated on very rare occasions, probably not more than once or twice a year, if then. The operating personnel can very easily lay a plank across the spillway rack to provide a safe walkway for gate access. This plank would be removed after operating the gate. Such a procedure results in far greater safety to the dam and a minimum amount of extra work by the Reservation personnel.

In the Springtime when the flashboards are to be installed I would be pleased to instruct Reservation personnel on a simple, economical and quickly attached flashboard. Bray Lake can then be returned to its normal Summer elevation each and every Spring and drawn down to its basic elevation each Fall for skating purposes.

As of the present day, the undersigned still has not received plans of the dam repairs and new spillway at Bray Lake.

Respectfully submitted

GHM/cmb

George H. McDonnell
County Hydraulic Engineer

COPY

CD Holyoke

Jan. 28, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
37 Elm Street
Springfield, Massachusetts

Gentlemen:

Reference is made to the dam and road fill at Bray Lake in the Mt. Tom Reservation. On Wednesday, Jan. 23, 1957, the undersigned was notified that leakage was taking place thru the embankment in the vicinity of the new culvert overflow. At the time the call came into my office I was in the field on other work and Mr. Sheridan immediately went to the reservation. He noted that water was emerging under pressure at a number of locations from the face of the embankment on the downstream side near the conduit. The drain-gates were opened at the pond and the water level in Bray Lake lowered.

The undersigned arrived at Bray Lake shortly after receiving notice of the condition. This was at about 5 p.m. No water was emerging from the downstream face of the embankment, but the pond had been lowered approximately a foot below the spillway crest. Gates were still open and water was discharging, lowering the level of the pond. A careful examination at the face of the dam on the downstream side showed no movement of water thru the material of the fill or out thru the riprap paving.

It was apparent that the leakage thru the embankment was originating at a high level on the upstream side and that by lowering the water, leakage thru the embankment was stopped.

On the day the leakage was first noticed, that is, on Wednesday, Jan. 23, 1957, a typical January thaw was occurring and high run-off was taking place from melting snows on the drainage area. This run-off raised the level of the lake above the crest of the spillway. The spillway was functioning normally and passing off the high rate of run-off. However, the raised lake level, coupled with thawing of frost

COPY

CD Holyoke
Jan. 28, 1957

The Hon. the Board of County Commissioners
Springfield, Mass.

on the embankment probably contributed to the leakage as it was noted to occur.

After examining the dam embankment and noting that no leakage was taking place with the water drawn down below the crest of the spillway, Mr. Knox of the Reservation personnel was told that the draw-down gate could be partly closed for the night to prevent a further draw-down of the lake level. During the daylight hours of the following day, the valve was closed and the pond allowed to re-fill.

Since the lowering of the pond had caused considerable disturbance to the ice on the pond, it was thought advisable not to raise the pond level too far in order to prevent too much damage to the ice and thus perhaps spoil the winter skating. Consequently, the level of water in the lake since Jan. 24th has been held just below the crest of the spillway by operating the draw-down gate and varying the amount of opening depending upon the quantity of water running into the lake from the brook. No leakage has reappeared and in the opinion of the undersigned, the structure is safe as it now exists provided the water level is not raised above the spillway crest.

Present conditions at Bray Lake can be maintained throughout the remainder of the skating season. However, upon termination of the skating season, the pond should be drawn down sufficiently to allow for an investigation of the embankment for the purpose of determining why seepage did occur when the water in the lake was above spillway crest level.

In the early part of December, and the latter part of November, settlement of the embankment of the dam took place in the vicinity of the spillway tube. This condition was noted in our report of Dec. 4, 1956. Further to the west and on the downstream side of the embankment the road paving has cracked and there has been movement of the embankment in this area. Both of these conditions indicate that the embankment material has moved slightly and that corrective action must be taken as soon as winter conditions pass.

It would seem advisable to notify the Dept. of Public Works of the Commonwealth of Massachusetts regarding this condition and to request them to take the necessary action to correct conditions at the dam. Also, an investigation should be made as soon as possible as to the reason for leakage thru the embankment at a high level in the vicinity of the spillway tube.

The undersigned would be pleased to work in co-operation with the engineers of the Dept. of Public Works in investi-

The Hon. the Board of County Commissioners
Springfield, Mass.

CD Holyoke
Jan. 25, 1957

gating the reason for the condition as outlined herein and in arriving at a satisfactory solution.

Downstream of the spillway tube, it can be noted that the brook channel is being eaten away on the right side, just below the end of the riprap paving. This condition was anticipated and the possibility of its occurrence pointed out in previous communications. It would be advisable for the Dept. of Public Works to extend the riprap paving of the channel further downstream to include the entire bend to the left in the stream-bed and to continue the paving beyond the bend far enough to guarantee that erosion of the stream banks and bottom will not take place during the high rate discharge from Bray Lake.

Conditions at Bray Dam have been inspected daily since Wednesday, Jan. 23, 1957. On Sunday, Jan. 27, 1957, it was noted that the grout in the riprap downstream of the spillway tube has either been poorly placed or voids are being washed underneath the riprap paving. Small holes noted in the concrete paving between the stones of the riprap were investigated and it was found that these small holes lead into large cavities. This paving should be investigated and if the paving is being undermined, the flow of water causing the undermining should be controlled. If the grout is not properly placed between the stones of the riprap, then the grout should be broken out and replaced properly so that the stones of the riprap are bound together with a thick and substantial layer of cement grout.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

Jan. 30, 1957

Commonwealth of Massachusetts
Dept. of Public Works
191 Main Street
Greenfield, Mass.

Re: Dam at Bray Lake
Mt. Tom Reservation
Holyoke, Mass.

Gentlemen:

In reference to the above subject project, the County Hydraulic Engineer has investigated conditions at the Bray Lake Dam and has submitted a letter report to this office, a copy of which is attached hereto. The contents of this letter report describe generally the conditions as found at Bray Lake Dam and include certain comments regarding the dam.

We are anxious to have the conditions at this dam corrected so that leakage thru the embankment will be prevented in the future. At the present time, the lake is being used for skating purposes and because of the cold weather, it would seem advisable to delay any drawing-down of the lake and any investigation into the embankment until later in the winter. The County Hydraulic Engineer feels that the dam is safe provided the water level is maintained at or below spillway crest. Such is being done at the present time by means of the draw-down gate.

Since leakage thru the dam takes place when the water is above the spillway level, this condition of leakage should be investigated and corrected prior to the heavy spring run-off. Will you kindly plan to have the contractor do the necessary work to stop the leakage thru the embankment and to correct the conditions as pointed out in the enclosed letter? Our County Hydraulic Engineer would be pleased to work with your engineers in planning the investigation of conditions at the dam and in carrying out the corrective measures. It is the feeling of this Board that steps should be taken now to do the corrective work as soon as weather conditions permit and before high water endangers the embankment by a repetition of the leakage.

Will you kindly have the person assigned to this work contact the County Hydraulic Engineer, Mr. George McDonnell, at Holyoke

Commonwealth of Massachusetts
Greenfield, Mass.

Jan. 30, 1957

JEfferson 3-3991, as soon as possible in order that the necessary work may be planned now and executed as soon as proper weather conditions allow.

Very truly yours,

BOARD OF COUNTY COMMISSIONERS

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SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
ELECTRICAL ENGINEERING

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CONSULTING ENGINEERS
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TEL. JEFFERSON 3-3991
GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

Feb. 26, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

Reference is made to the dam at the Mt. Tom State Reservation forming Lake Bray and carrying the Reservoir access road. On Jan. 28, 1957 I wrote to your Board regarding the dam and particularly in connection with leakage that had appeared adjacent to the overflow culvert tube on the downstream face of the embankment. This leakage was first noted on Jan. 23, 1957.

In our letter we stated that conditions at Bray Lake could be maintained throughout the remainder of the skating season and that upon termination of the skating season should be drawn down sufficiently to allow for an investigation of the embankment for the purpose of determining why seepage occurred at the downstream face of the embankment.

I am of the opinion that it is now time to take action regarding this matter and to have an investigation made and corrective action taken to prevent further seepage.

It is recommended that the stored water in Bray Lake be drawn-down and that the Lake be kept emptied until the investigation is completed and proper repairs made.

The weather is now becoming warmer and the condition of the ice is very poor. Little if any skating will probably be done for the remainder of this year. Though the night-time may be cold enough to cause freezing, the day-time temperature will probably be above freezing most of the time. It would seem advisable to complete the investigation and to have the corrective action completed prior to the Spring use of the Lake for fishing and other purposes.

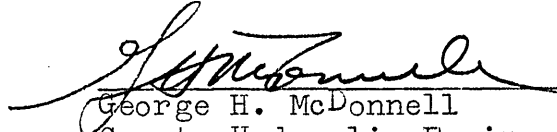
It is recommended that the Superintendent of the Reservation be directed to immediately drawdown Bray Lake and to leave the drain

The Hon. the Board of County Comm.
Springfield, Mass.

Feb. 26, 1957

gate wide open. In drawing down the Lake the gate should be opened only part way so as not to cause the discharge of the stored water at a high rate. Following emptying of the Lake the gate could be opened wide.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke

Feb. 27, 1957.

Commonwealth of Massachusetts
Dept. of Public Works
191 Main Street
Greenfield, Massachusetts

Re: Bray Lake Dam
Mt. Tom Reservation
Holyoke, Mass.

Gentlemen:

In regard to the above subject dam I believe the County Commissioners of Hampden County wrote to you regarding leakage thru the embankment at the location of the new overflow tube. This leakage was described in a report to the County Commissioners dated January 28, 1957. I believe a copy of this report was submitted to your office by the County Commissioners.

The skating season at Bray Lake has ended due to warm weather conditions. It is so late in the Winter that it can be expected there will be little, if any, further opportunity for skating. Consequently, it would seem advisable to plan on making the necessary investigation at the new embankment and to take whatever corrective action is necessary to prevent the leakage thru the earth fill.

At two locations the asphalt surface of the road has cracked and settled. One of these locations is in the vicinity of the new spillway tube.

The undersigned would be pleased to discuss the necessary work at this dam and road embankment with your personnel and to plan the necessary corrective measures to prevent further leakage thru the embankment. If the work can be considered now it will be possible to complete the necessary alterations and repairs in time to refill Bray Lake and make use of this body of water for the Spring fishing and recreational season.

If the person assigned to this work will call or write the undersigned, at the above address, I will arrange my work schedule to assist in any way to expedite the necessary work on the project.

Very truly yours

GHM/cmb

George H. McDonnell
County Hydraulic Engineer

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DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

C.D. Holyoke
July 2, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Mass.

Gentlemen:

On Monday, July 1, 1957, the undersigned inspected the dam at Bray Lake in Mt. Tom Reservation and found that the seepage previously existing at this dam appears to have been corrected by the concrete collar installed around the tube overflow and the wooden sheet piling.

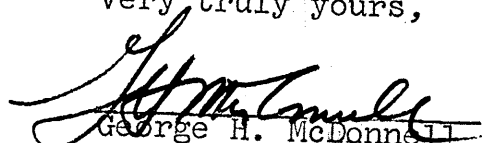
If it is desirable to raise the lake to the level that was maintained during the spring, summer and fall seasons in the past, a flashboard system could be installed upon the top of the vertical overflow well and this flashboard system could be set with the top of the flashboards at the same grade as the pond had been maintained in years gone by.

It will not be a difficult matter to frame a flashboard arrangement on top of the concrete wall of the spillway. This flashboard arrangement could be braced from the inside and could set directly on top of the wall.

The flashboards could be arranged in such a way that they could be lifted off in the fall when the level of the lake would be lowered for skating purposes. If the level of the lake is raised, the growth of grass along the edges will be discouraged to a great extent. Shallow water along portions of the shoreline now results in growth that may be undesirable.

The flashboard system could be built and installed by the maintenance personnel at the Reservation. If they wished any assistance or guidance in the framing and installation of the flashboards, I would be pleased to help them in this matter.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/f

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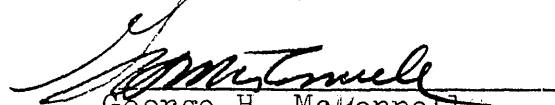
CD Holyoke
May 17, 1957

Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Mass.

Gentlemen:

Enclosed for your information and file purposes please find a copy of a communication sent to E. T. O'Neill regarding the repairs at Bray Lake Dam. The contents of this letter are self explanatory.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

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PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
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HOUSING DEVELOPMENT
WASTE DISPOSAL

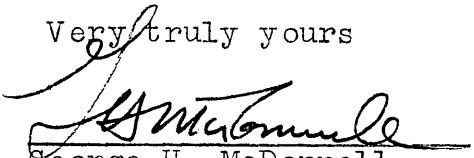
H-5
May 24, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Mass.

Gentlemen:

I have recently inspected again the repair to the dam at Bray Lake in Mt. Tom Reservation and note that the grade of the paving repair is not entirely satisfactory and I have notified the Contractor and enclose a copy of the letter for your information and file purposes. The contents are self-explanatory.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

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GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

CD Holyoke
April 1, 1957

Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Massachusetts

Gentlemen:

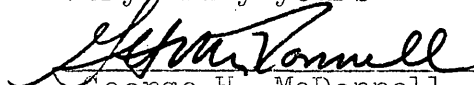
I have received notification from the Department of Public Works of the Commonwealth of Mass., that it is probable the Department will advertise for permanent repairs to the Dam at Bray Lake, in Mt. Tom Reservation. The Department points out that in view of the delay it is advised that temporary repairs be made to the cavity in the roadway. Such repairs would serve to allow the road to be opened for traffic with no hazards. When permanent repairs are undertaken, it will naturally be necessary to close the road to traffic for the duration of the repairs.

We are enclosing a copy of the letter from Charles Damon, District Highway Engineer.

It is recommended that the Reservation personnel be instructed to fill the cavity in the roadway by packing earth fill into the cavity. The use of a small quantity of water to assist in packing the earth might be advisable. This could be accomplished on a trial basis to determine its effectiveness. The cavity should be filled to the surface of the pavement and the top 6-inches should be a good gravel with a binding material to hold the gravel in place.

Such a repair would allow the reopening of the road until such time as the permanent corrective action is taken at the spillway tube area.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

Enc.
GHM/cmb

Handwritten note:
I am enclosing
to you a copy
of the letter
to the Board
of Commissioners

WATER SUPPLY
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ELECTRICAL ENGINEERING

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PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
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CD-Holyoke

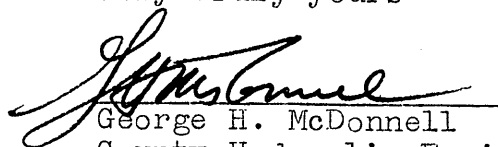
March 7, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
37 Elm Street
Springfield, Massachusetts

Gentlemen:

In reference to the dam at Bray Lake in Mt. Tom Reservation, the undersigned will meet with Mr. Prescott of the Department of Public Works of the Commonwealth of Massachusetts at the site of the dam on Thursday afternoon to discuss the necessary alterations to make this dam tight and prevent further seepage thru the structure. I will report to your Board on the results of the conference with Mr. Prescott.

Very truly yours


George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke

March 26, 1957

The Hon. the Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

Reference is made to the dam at Bray Lake in Mt. Tom Reservation. It was pointed out in previous communications to your Board that the small leakage occurring thru the dam, in the vicinity of the new spillway tube, was causing a washout of some soil material and that as a result of this washout a settlement in the surface of the roadway was noted directly above and in the vicinity of this spillway tube.

Just prior to this past week-end, the undersigned received notification that further settlement had occurred and that a definite failure had taken place in the road pavement.

An examination of conditions in the field indicates that the material washed out by the small leak had resulted in forming a cavity under the road and with the passing of cold weather and the thawing of the frost in the road, the earth fill settled into the cavity and consequently a hole appeared in the roadway.

I will discuss this matter with Mr. Prescott of the Department of Public Works in Greenfield and determine when the repair work will take place at the spillway tube so that the road can be permanently repaired and water again impounded behind the dam. If there should be a delay in doing the repairs to the dam, it would seem possible to reopen the road by packing fill into the cavity and then filling the hole to road grade. This work would probably not require more than two(2) yards or so of fill material and a few man hours of labor to properly pack the material into the cavity. With the cavity refilled the road could probably be opened for use until the time when permanent repairs are to be made.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke
March 26, 1957

Commonwealth of Massachusetts
Dept. of Public Works
191 Main Street
Greenfield, Massachusetts

Att: Mr. Prescott
Chapter 90 Div.

Re: Bray Lake Dam-Mt. Tom Reservat.
Holyoke, Mas

Gentlemen:

During the past week-end further settlement took place in the roadway at Bray Lake Dam. This settlement probably resulted from frost leaving the ground and allowing the subgrade material of the roadway to fall into the cavity washed out from around the spillway tube by the leakage that occurred during the past winter. At the present time, the roadway to the Reservation has been blocked off.

Do you know whether or not the permanent repairs at the spillway tube are to be made in the very near future or whether there will be a delay in doing this work. If there is to be a delay, it would seem advisable to do temporary repair work at the cavity in the roadway in order that the road might be reopened for vehicular use. An examination of the cavity in the field indicates that it might be possible to plug this cavity reasonably well for use of the roadway until such time as repair of the cavity for the purpose of impounding water can be accomplished.

Will you kindly inform the undersigned as to whether or not the permanent repairs will be made in the very near future and, if there is to be a delay, your thoughts on a temporary repair to restore the road to a useful condition are requested.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

COPY

CD Holyoke

COMMONWEALTH OF MASSACHUSETTS
DEPT. PUBLIC WORKS
DISTRICT #2 OFFICE
191 MAIN STREET
GREENFIELD, MASS.

March 29, 1957

208-Holyoke
Mount Tom Reservation

Tighe & Bond, Inc.,
Bowers & Pequot Sts
Holyoke, Mass.

Gentlemen: Attention: Mr. G. H. McDonnell

In reference to your letter of March 26, 1957,
it is probable that the Department will advertise for the
permanent repairs to the spillway of Bray Lake.

In view of the delay we would advise that a
temporary repair be made at the cavity in the roadway.
Such repairs would serve to allow the road to be opened
for traffic with no hazard.

When permanent repairs are undertaken it will
be necessary to close the road to traffic for the duration
of the contract.

Very truly yours

Charles M. Damon
District Highway Engineer

KCP/M
C-Mr. Pyne

CD Holyoke
April 1, 1957

Board of County Commissioners
Hampden County Court House
Elm Street
Springfield, Massachusetts

Gentlemen:

I have received notification from the Department of Public Works of the Commonwealth of Mass., that it is probable the Department will advertise for permanent repairs to the Dam at Bray Lake, in Mt. Tom Reservation. The Department points out that in view of the delay it is advised that temporary repairs be made to the cavity in the roadway. Such repairs would serve to allow the road to be opened for traffic with no hazards. When permanent repairs are undertaken, it will naturally be necessary to close the road to traffic for the duration of the repairs.

We are enclosing a copy of the letter from Charles Damon, District Highway Engineer.

It is recommended that the Reservation personnel be instructed to fill the cavity in the roadway by packing earth fill into the cavity. The use of a small quantity of water to assist in packing the earth might be advisable. This could be accomplished on a trial basis to determine its effectiveness. The cavity should be filled to the surface of the pavement and the top 6-inches should be a good gravel with a binding material to hold the gravel in place.

Such a repair would allow the reopening of the road until such time as the permanent corrective action is taken at the spillway tube area.

Very truly yours

Enc.
GHM/cmb

George H. McDonnell
County Hydraulic Engineer

CD Holyoke
May 17, 1957

E. T. O'Neill Contractors
Commercial Street
Holyoke, Mass.

Gentlemen:

On Wednesday, May 15, 1957, the undersigned examined the repair work completed at Bray Lake in Mt. Tom Reservation. The work has been completed satisfactorily and in accordance with the requirements of the specifications. However, the finish grade of the asphaltic surface of the roadway on the southerly edge of the road is such that the bottom elevation of the old trough built to carry surface water into a pond is higher than the surface of the adjacent paving. I have not taken levels on the edge of the paving but it would seem to me that surface water will run off of the paving towards the pond just northerly of the old paved surface water chute. A slight adjustment in the surface grade or the construction of a short asphaltic road shoulder or curb just westerly of the chute should provide proper protection to prevent surface water from running off of the road at this point. Ten (10) feet, more or less, of elevated shoulder or curb constructed of asphaltic material should suffice.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/cmb

H-52
May 24, 1957

E. T. O'Neill & Sons
Commercial Street
Holyoke, Mass.

Gentlemen:

I received your telephone message that the work at Bray Lake at Mt. Tom Reservation had been completed. I reviewed the work at the site and am of the opinion that the road pavement is not at proper grade based upon the level of the adjacent paved areas. Your paving seems low on the basis of the old paving and traveling over your patch there is a noticeable drop as the vehicle passes from the original paving onto your new paving. Will you kindly check this matter and if you wish, I would be pleased to meet with a representative of your organization to discuss this final phase of the repair work.

Very truly yours

George H. McDonnell
County Hydraulic Engineer

GHM/omb

Jan. 8, 1958

Mr. Edward G. Schaeffer
Northampton Highway
Smiths Ferry
Holyoke, Mass.

Dear Sir:

In accordance with the provisions of Chapter 253, Section 45, et seq. of the General Laws, Tercentenary Edition, relative to the inspection, condition and safety of the dams of Hampden County, you are hereby advised that your dam located off of Northampton Road and southerly of the Road to Mt. Tom Reservation has been recently inspected by our Engineer and your attention is called to the condition noted and the recommendation made by him.

"This dam located off Northampton Highway and southerly of the road to Mt. Tom State Reservation is very wide and quite low in height. In the earth embankment of the dam adjacent to the two masonry manholes there is a cavity that should be investigated and repaired. It would appear as if this cavity is the result of a crack or an open joint in the drainpipe. By excavating the cavity and examining the drainpipe, proper repairs can be made. It is recommended that these repairs be made in the near future."

Any further information concerning this matter which you may desire will be furnished by this office upon request.

Very truly yours,

HAMPDEN COUNTY COMMISSIONERS

Chairman

H-20 Feb. 18, 1960

Mt. Tom Reservation Commission
c/o Hampden County Commissioners
Hampden County Court House
37 Elm St.
Springfield, Mass.

Gentlemen:

Reference is made to the request of Commissioner Stapleton for the undersigned to examine the old foundation adjacent to Bray Lake for possible use as the foundation for a new building to be constructed in the near future. The foundation is in general constructed with local stone and some concrete masonry. The foundation was apparently built many years ago and has remained unused for quite some time.

An examination of the foundation shows that there is some evidence of movement but this movement does not appear to be serious. There are some areas where stones have either fallen from or been removed from the foundation walls. Stones could be replaced or these voids filled with concrete.

At the time of my examination, ice and snow hid the footing of the existing foundation walls and frozen ground prevented any digging around the base of the existing walls. However, the existing walls appear to have been planned for holding the weight of a structure and consequently, since no major shifting or settlement of any of the walls has occurred over the many years since the walls have been built, it would appear safe to assume that the walls could be made to support a typical toilet and general purpose building as contemplated.

In making use of the walls, it would also be necessary to level the top of the walls to the desired design grade and this could be done by the use of concrete masonry or a combination of local stone masonry with concrete. Large voids in portions of the walls near the upper surface could be filled with concrete. Before doing any concrete filling, the existing stone wall should be cleaned of any debris, dirt, and miscellaneous foreign matter.

H-20
Feb. 18, 1960

2.

In this way, the new concrete will be able to adhere well to the existing stone work.

Based upon the type of building to be built, the floor load, if any, to be imposed on the foundation walls and the wall as well as the roof load itself, necessary work on the existing foundation walls can be determined and carried out.

We will be pleased to assist your Commission and the personnel designing as well as constructing the building, in connection with proper use of the existing walls.

Very truly yours,

Tighe & Bond, Inc.

George H. McDonnell
Chief Engineer

GHM/f

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

TIGHE & BOND

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CIVIL, SANITARY AND ELECTRICAL ENGINEERING
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TEL. JEFFERSON 3-3991

H-20 Feb. 18, 1960

Mt. Tom Reservation Commission
c/o Hampden County Commissioners
Hampden County Court House
37 Elm St.
Springfield, Mass.

Gentlemen:

Reference is made to the request of Commissioner Stapleton for the undersigned to examine the old foundation adjacent to Bray Lake for possible use as the foundation for a new building to be constructed in the near future. The foundation is in general constructed with local stone and some concrete masonry. The foundation was apparently built many years ago and has remained unused for quite some time.

An examination of the foundation shows that there is some evidence of movement but this movement does not appear to be serious. There are some areas where stones have either fallen from or been removed from the foundation walls. Stones could be replaced or these voids filled with concrete.

At the time of my examination, ice and snow hid the footing of the existing foundation walls and frozen ground prevented any digging around the base of the existing walls. However, the existing walls appear to have been planned for holding the weight of a structure and consequently, since no major shifting or settlement of any of the walls has occurred over the many years since the walls have been built, it would appear safe to assume that the walls could be made to support a typical toilet and general purpose building as contemplated.

In making use of the walls, it would also be necessary to level the top of the walls to the desired design grade and this could be done by the use of concrete masonry or a combination of local stone masonry with concrete. Large voids in portions of the walls near the upper surface could be filled with concrete. Before doing any concrete filling, the existing stone wall should be cleaned of any debris, dirt, and miscellaneous foreign matter.

*Copy of this letter sent to Sup't. John P. Knox
on Feb. 25, 1960.*

**TIGHE
& BOND CONSULTING ENGINEERS**

H-20
Feb. 18, 19

2.

In this way, the new concrete will be able to adhere well to the existing stone work.

Based upon the type of building to be built, the floor load, if any, to be imposed on the foundation walls and the wall as well as the roof load itself, necessary work on the existing foundation walls can be determined and carried out.

We will be pleased to assist your Commission and the personnel designing as well as constructing the building, in connection with proper use of the existing walls.

Very truly yours,

Tighe & Bond, Inc.


George H. McDonnell
Chief Engineer

GHM/f

WATER SUPPLY
SEWERAGE
SEWAGE DISPOSAL
STRUCTURAL ENGINEERING
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TIGHE & BOND, Inc.
CONSULTING ENGINEERS
BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991
GEORGE H. McDONNELL
PHILIP W. SHERIDAN

DAMS & POWER INSTALLATIONS
HIGHWAYS & BRIDGES
HOUSING DEVELOPMENT
WASTE DISPOSAL

CD Holyoke

Feb. 27, 1957

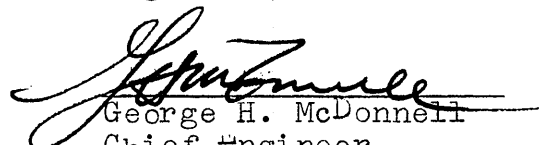
Board of County Commissioners
Hampden County Court House
Springfield, Massachusetts

Gentlemen:

Enclosed herewith please find a copy of a communication sent to the Dept. of Public Works of the Commonwealth of Massachusetts, Greenfield, Mass., regarding the dam at Bray Lake. The contents of this letter are self explanatory.

Very truly yours

Tighe & Bond, Inc.


George H. McDonnell
Chief Engineer
County Hyd. Eng'r.

Enc.
GHM/cmb

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

H-20
March 30, 1960

Mt. Tom State Reservation Commission
c/o Hampden County Commissioners
Hampden County Court House
37 Elm Street
Springfield, Mass.

Gentlemen:

Reference is made to my conversation with Commissioner Stapleton in connection with a system for disposing of sanitary sewage at the proposed Bray Reservoir new building, if flush toilets are installed. I have examined the area in the field and it would appear that the most likely location for the liquid sewage disposal facilities would be on a site across the main road from the existing building at Bray Lake. This site is the area at and to the north of the existing toilet facilities. It is my hope that the soil in this area would be suitable for the construction of typical seepage trenches and that these trenches could be fed from a septic tank located either easterly or westerly of the main entrance road, at a point between the present lodge building and the existing two small toilet houses.

The Superintendent of the reservation had nine (9) test holes dug for us in the area thought best suited for the seepage facilities. These test holes showed the presence of a large quantity of ground water. One hole stood full to the surface with ground water while all others showed ground water at varying depths. The driest of the holes showed water standing only 13" below existing ground level.

Based upon the high ground water condition and the type of soil encountered, it would not be possible to build a sewage disposal system using the typical standard seepage trenches for handling the effluent from a septic tank. Because of the high ground water condition, it will be necessary to clear an area about 40 ft. wide and 80 ft. long for the purpose of constructing a sub-surface sand filter. The ground in question would be leveled at a grade above existing ground water conditions. On the prepared ground a system of collection pipes would be in-

**TIGHE
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March 30, 1960

stalled and these would be gravel encased. On top of the gravel encased collector pipes, a sand filter approximately 30" in depth would be constructed. On top of this sand filter, distribution pipes would be laid on about 6 ft. centers. They would be laid in a bed of gravel. On top of this gravel encased distribution system there would be about 6" to a foot of top soil.

The sand filter as described would be built above the level of ground water. Sewage liquid from the septic tank would pass into the top layer of pipes and be distributed onto the sand filter thru the upper gravel layer. The liquid would filter thru the bed of sand and then be collected in the underdrains first laid on and in the properly prepared original soil. The underdrain pipes would be collected to a common manhole or collection box where facilities for chlorination of the filtered liquid would be provided. From here the liquid would be passed to the stream thru a pipe at a point adjacent to the filter bed.

Because of the concentrated load that could be placed upon the sewage disposal system during skating periods in the winter, the septic tank would of necessity be large in size. We have not as yet determined a definite size but, in all probability this tank might be in the neighborhood of 4,000 gallons in capacity.

Before the sewage disposal system, as described, could be approved for construction, it would be necessary to obtain clearance from the owner of property downstream where water is ponded for recreational and aesthetic purposes. This is at the property of P. J. Kennedy. The proposed construction of Route 91 will probably eliminate the Kennedy dam and pond. However, if an application is made to the State Dept. of Public Health for approval of a sewage disposal system at this time, since Route 91 is only in its planning stage, the Health Department will undoubtedly require that the approval of the Kennedy family be obtained since the treated liquid effluent from the proposed disposal system, mixed with normal brook flow, would be passing thru Kennedy property.

Since the brook into which the liquid affluent would be discharged has its mouth in the Connecticut River above the dam, and since the Connecticut River is classified "B" above the dam, chlorination of the sewage effluent at the treatment facilities adjacent to Bray Lake would be required during the Spring, Summer and early Fall months. Chlorination would not be needed in the Wintertime during the skating season, when the heavy usage of the system would probably occur.

Because our design is of a preliminary nature at the present time and consists of nothing more than a few notes, preliminary

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March 30, 1960

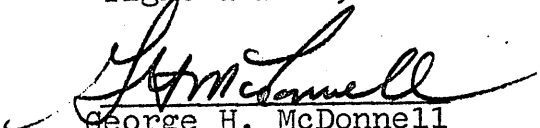
computations and the gathering of data regarding ground water conditions, the cost of the proposed disposal facilities cannot be firmly determined. However, I am of the opinion that the septic tank in place, together with the seepage field, related piping and distribution facilities will run in the neighborhood of \$5,000. This cost could be reduced considerably by the use of hired equipment and reservation personnel in the installation of the pipelines, the building of the sand filter, etc. However, I feel certain that even doing the work in this manner, the cost will be in excess of \$3,500.

The preliminary design figures are based upon the presence of three flush toilets and one urinal in the new building. Usage is based upon an 11-hour day in the summertime, with peak usage occurring during a period of about six hours.

I will be pleased to meet with your Commission, if you do desire, in connection with this proposed disposal facility.

Very truly yours

Tighe & Bond, Inc.


George H. McDonnell
Chief Engineer

GHM/cmb

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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CIVIL, SANITARY AND ELECTRICAL ENGINEERING
INVESTIGATIONS, REPORTS, PLANS AND SPECIFICATIONS
SUPERVISION OF CONSTRUCTION AND OPERATION

BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
April 30, 1968

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam
Reservoir Road
Holyoke, Mass.

Gentlemen:

In accordance with your request, an inspection was made of the above subject dam and in particular, the wash-out at the old culvert outlets extending under the road leading into the Reservation. Inspections by Philip Sheridan of this office in the absence of the undersigned, followed by an inspection of the undersigned on Monday, April 29th, showed that the bottom of the culverts which form the old spillway are now rotted sufficiently whereby soil is being washed away. The cave-in along the upstream edge of the paved roadway is undoubtedly related to the rotten bottoms of the two old culvert spillways.

In our inspection of 1966, and as reported to your Honorable Board in November of that year, we stated as follows:

"The old original spillway tubes are in the same general condition as previously reported. Inverts have become rotted ----the headwall is cracked at three locations, and a portion of the headwall is mis-aligned. This condition does not endanger the dam. No leakage whatsoever was noted through the embankment in the vicinity of the spillway tubes."

Later on in our report we pointed out that at some future date funds should be included in the budget for repairing or replacing the spillway tubes and the cracked concrete headwall.

Since the time of this original recommendation, failure has extended to a point where the embankment at the old tubes must be excavated, voids plugged, the embankment excavation replaced and paving restored. There are voids under the paving and in the embankment itself caused by openings in the top of each old tube thru which embankment earth has been falling. When soil which is arched over the void falls thru, there is no further support for the paving and the paving itself collapses.

Since the entire section of the upstream half of the embankment at the spillway tubes should be excavated down to the top of the tubes and, since my most recent examination of the condition of both tubes shows that they are now quite seriously rotted, rusted, and joints have opened quite wide, I wish to submit the following recommendation for the complete abandonment of the old tubes rather than constructing the new headwall with the weir lip wall and the insertion of a concrete liner within the tubes, together with repair of the tubes in the lower sections.

- A. Excavate the embankment and roadway above the tubes to the top of the tubes as needed. Open a hole in the top of each tube by enlarging existing holes and then, with the use of 2,000 lb. mass concrete, completely fill each tube by shooting the concrete directly thru the hole in the top of the upper section of each tube. By proper scheduling and handling of the concrete, it is possible that a minimum of bulkhead work will be required at the end of each tube.
- B. Fill any voids found along the outside of each tube with compacted earth or concrete grout.
- C. Fill a portion of the trench over the tubes with Class B concrete, then compacted gravel and pavement repair.
- D. Break out the old headwall and dispose of the broken concrete.
- E. Shape and slope the upstream surface of the embankment down to the lake shore, using riprap.
- F. Within the next year, provide a swale overflow around the westerly end of the dam embankment by shaping a wide trough area in the roadway. Thus, should the 8 ft. diameter spillway constructed in 1956 be unable to handle flood flows and the level of the lake rise, water will flow to the stream below, around the dam on natural ground, rather than over the top of the dam embankment.

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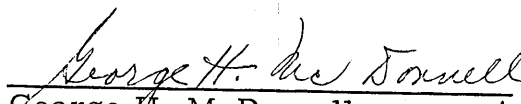
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I have made an analysis of the drainage area and have also noted that the 1956 spillway has a capacity of more than twice the old spillway tubes now recommended to be abandoned. In all probability, the 1956 spillway will handle any flood flows which will occur, based upon the drainage area as now existing. However, during flood flow conditions, there is always the possibility that the inlet to the one remaining spillway facility will become blocked with large floating wooden debris, logs, stumps, etc., and thus its capacity might be greatly reduced. It would be under this condition when the recommended emergency swale type spillway would then function to relieve the rising water level in the lake.

It is my opinion that the revised method of handling the problem at the Bray Lake Dam is more desirable because of present conditions at the old spillway tubes, that the revised solution will be lower in cost, and the revised solution can be completed within a matter of a very few days without the need of skilled help for the purpose of constructing forms, placing and tying reinforcing wire, finishing concrete, etc.

The undersigned will advise Reservation personnel in carrying out the work as outlined herein, if you so desire.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
October 21, 1968

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam

Gentlemen:

Inspections of various dams within the City of Holyoke have been made recently and particular attention has been given to the dam at the Reservation at Lake Bray.

The embankment of this dam at the Reservation is o.k. The toe area is dry. There is no brush growth on the embankment slopes and the surface of both the upstream and downstream slope is stable. The road extending for the entire length of the top of the dam is in satisfactory condition with the exception of the settled area adjacent to the main spillway. Settlement here seems to have stabilized. However, the road surface is depressed and it would seem advisable to bring it up to grade with Type I asphalt concrete and eliminate the depression. This work should be done during 1969 at the latest.

A special inspection and report on the dam was made on April 29th of this year because of the formation of a cave-in along the upstream edge of the roadway pavement in the vicinity of the twin auxiliary spillway tubes. At that time, it was pointed out to your Board that in previous inspections we called attention to the fact that these old original spillway tubes were becoming rotted. As of 1966, this condition had not progressed to a point to endanger the dam. However, as reported on April 30, 1968, the condition of these tubes had deteriorated to a point where leakage had resulted in the formation of the cavity and failure of the road shoulder.

We have previously recommended that the solution to the problem is the complete replacement of the headwall and the two spillway tubes, and that this work should be done at a time when the lake could be emptied or at least lowered to protect the construction area from possible storm flow conditions. Temporary repairs were suggested in our letter of April 30, 1968.

As of the present time, it is essential that some action be taken to prevent the passage of water into the twin spillway tubes. If Fall rains and Spring run-off are allowed to continually pass into these twin tubes, the water will flow into the embankment soil under the rotted tube inverts and will cause displacement of the soil, failure of the road shoulder, and could even result in failure of the dam embankment.

As long as water does not continuously flow into these twin tubes, there will not be the danger of soil erosion in the embankment. To prevent water entering the tubes, except under short-lived flood flow conditions, it is recommended that, as an emergency measure to serve until after the Spring freshet of 1969, sand bags be placed in front of the twin tube openings to a height of about 2 feet, and that the sand bags be tight enough and well placed so as to form a watertight dam.

This temporary sandbag barrier will prevent continuous flow of run-off through the twin spillway tubes and will result in diverting all run-off through the main spillway located further to the east. Should a serious flood occur, the sandbags would be overtopped and the twin auxiliary spillway tubes could function during the emergency. A minor amount of cement grout patching at the upper portion of each of the twin tubes would greatly decrease any soil erosion from the embankment during any short, extreme flood flow period. All of this work could be done by the Reservation maintenance and operating employees.

In 1969, permanent repairs could be made to these spillway tubes. A new headwall could be constructed, and an overflow lip-type of weir, about 18" in height, could be included as part of the headwall construction so that only extreme flood flow conditions would result in the operation of these twin spillway tubes. At the same time as the new headwall construction is done, new concrete spillway tube sections could be incorporated into the new headwall and could replace the badly rotted corrugated iron tubing from the headwall location into the embankment at the point where the grade of the present spillway tubes extend sharply downward. Concrete

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patching of the inverts of the remaining portions of the tubes could complete the work.

The permanent work as outlined for 1969 is not an absolute necessity in that the spillway facility constructed after the flood of August, 1955 was built of a size suitable for the drainage area. The new spillway is twice the size of the twin tube original spillway now in need of attention and repair or replacement.

It would be possible to eliminate the twin tubes entirely by lowering the lake, digging out the tubes, and filling the void with selected compacted earth. An alternate to this work would be plugging the tubes with concrete at the upper portion of each tube after first filling the lower portion of each tube with wash-in sand and gravel. This latter method would result in saving the road paving from excavation and replacement. The old concrete headwall could be broken up and removed.

The cost of eliminating the twin tubes would probably be almost as much as doing the improvements suggested for 1969 hereinbefore. There are advantages in maintaining the twin culverts for emergency purposes. Should brush and debris become lodged on the steel bar rack at the large and newer spillway in time of flood flow conditions so that the capacity of this spillway is restricted, water could then be relieved thru the dam at the twin culvert location. Dams have been washed out in the past even though they had adequate spillway facilities simply because the entrance to these spillways became plugged during the crucial hours of flood flow by heavy debris washed downstream as a result of the raging flood water.

Also, should you ever wish to do maintenance work at the main spillway or spillway tube in the future, you could rely on the repaired twin tubes as emergency spillway outlets.

In summary, it would be advisable to construct the temporary sand-bag dam in front of the twin tubes for the coming Fall thru Spring season. Also, temporary grouting of the worn invert sections could be done with a few bags of pre-mixed sand-cement grout. All of this would be hand labor to be accomplished by about two men.

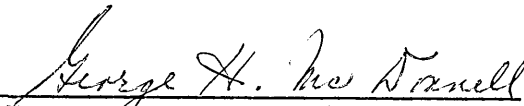
During the next month or two, while preparing the budget for next year, it could then be decided by your Board as to whether or not you

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wish to retain the twin culvert spillway facility or abandon it. The cost for retaining the spillway facility and doing the minimum work necessary to make it safe, would be about \$2,800.

Respectfully submitted,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
PHILIP W. SHERIDAN
EDWARD J. BAYON

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SUPERVISION OF CONSTRUCTION AND OPERATION

BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
December 9, 1968

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam

Gentlemen:

The undersigned made a re-inspection of the above subject dam at the Mt. Tom Reservation on November 29, 1968, for the purpose of determining conditions in the field at the location of the old twin culvert spillway. As pointed out previously, the old spillway tubes have deteriorated to a point where the water leaks into the fill of the embankment carrying the roadway and as a result, settlement of the roadway has occurred in the past.

As long as water is allowed to flow into these old spillway tubes, the danger of embankment settlement and disturbance will be ever present. The flowing water will enter the embankment soil under the rotted tube inverts and as a result, settlement of the surface roadway will occur and failure of the embankment might take place. I call your attention to Paragraphs 2 & 3, Page 2 of our letter-report to your Honorable Board on October 21, 1968.

As long as water overflowing from the lake does not flow into the old twin spillway tubes, there will not be the danger of soil displacement in the embankment. To prevent water from entering the old spillway tubes under normal operating conditions, as an emergency measure for this winter and thru the spring of 1969, sand bags should be placed in front of the twin tube openings to a height of about 2 feet. The sand bags should be hand placed in such a manner as to be watertight.

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& BOND CONSULTING ENGINEERS

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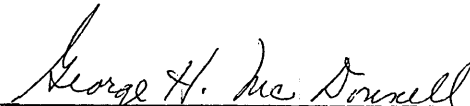
The small sand bag barriers thus placed will prevent water from flowing into the rotted spillway tubes, and all normal overflow from Bray Lake will take place at the major spillway located further to the east.

Should a major flood occur, the sand bags would be overtopped. However, a wall of sand bags 2 feet high directly in front of the old twin spillway tubes would undoubtedly be sufficiently high to keep these old tubes dry under any anticipated normal spring run-off condition.

Permanent repairs should be made during 1969. Recommendations in connection therewith are contained on Pages 2, 3 & 4 of our letter-report of October 21, 1968.

It is further recommended that in preparing the budget applicable to the Mt. Tom Reservation for the year 1969, funds be provided to re-grade the road on top of the dam at the sunken area directly above the main and new spillway facility. This area of the embankment settled about 10 years ago when seepage occurred along the outside of the large corrugated iron spillway tube. Corrective action was taken by installing a concrete seepage control collar around the tube. However, complete repairs of the road surface were never made. The paving at the sunken area should be cut out, compacted gravel placed to proper grade, and then a paving patch installed to bring the roadway up to a proper and smooth riding surface.

Respectfully submitted,



George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
December 31, 1969

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Gentlemen:

Re: Bray Lake Dam,
Mt. Tom Reservation

The undersigned made a re-inspection of the above subject dam on Wednesday, December 31, 1969, for the purpose of determining whether or not a proper temporary dike had been placed in front of the two old spillway tubes to prevent them from becoming active. In my letter-report on the condition of dams within the City of Holyoke dated December 8th, I pointed out that the temporary dike in front of the old spillway tubes had been broken through and at that time it was no longer serviceable. It was recommended that the dike be properly maintained and that it be inspected frequently and repaired as necessary to keep it functional so as to prevent the entrance of lake water into the old spillway tubes.

While at the dam today, the entrance to the old tubes was found to be partially blocked with snow. However, by kicking away the snow in front of the left tube, I found that there was no suitable dike present to prevent the spillway tubes from becoming active should a thaw occur and the level of the lake surface rise.

Conditions at the dam embankment are not good, particularly if water is allowed to enter the old spillway tubes. A failure of the embankment has already begun, as pointed out in my letter-report of December 8th. Permanent repairs are a must in 1970.

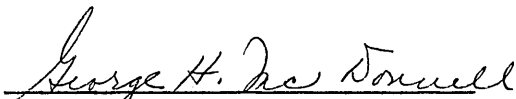
Personnel at the Reservation should be directed to construct a good water-tight, dike type barrier, in front of the old spillway tubes now and to maintain this barrier until after the spring heavy runoff.

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& BOND CONSULTING ENGINEERS

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Any continuation of the leakage of water into the embankment of the dam through the old rotten spillway tubes could accelerate the enlargement of the void which is being formed under the roadway and, if the flow of water through the cavity is rapid enough, complete failure of the embankment could occur and water stored in Lake Bray could be released rapidly to do heavy damage downstream.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

GEORGE H. McDONNELL
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BOWERS AND PEQUOT STREETS
HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD-Holyoke
April 22, 1970

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Re: Bray Lake Dam
Mt. Tom Reservation

Gentlemen:

On Tuesday, April 14, 1970, the undersigned inspected the old spillway at the above subject dam and noted that a sizeable sand dike exists in front of the old spillway tubes. This dike prevents water from flow into the tubes and thus it is protecting the dam embankment from soil erosion in the area where the old spillway tubes are corroded and rotten.

This dike is a temporary measure and should be replaced in the not too distant future with a permanent concrete wall. The wall should be constructed as a part of a new concrete headwall facility. The present headwall is broken, misaligned and in very poor condition. It is not only unsuitable from a structural and a hydraulic viewpoint, but it is also very undesirable from an aesthetic viewpoint.

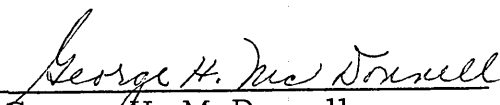
If it is at all possible, the headwall facility should be reconstructed along with the hereinbefore recommended concrete diversion or curb wall during the coming summer. Until sufficient funds can be made available for this amount of work, then repair or replacement of the spillway tubes could be scheduled for another year. It would be desirable to do all of the repair and replacement work at one time. However, this would probably necessitate an expenditure of funds larger than available in a single year. By doing the headwall and curb wall work one year and the tube replacement or repair work another year, the total expenditure could be spread out over two fiscal years.

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& BOND CONSULTING ENGINEERS

-2-

The undersigned would be pleased to assist you in any way in laying out a design and preparing a specification for new headwall and curb wall construction.

Very truly yours,


George H. McDonnell
County Hydraulic Engineer

GHM/amd

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HOLYOKE, MASSACHUSETTS
TEL. JEFFERSON 3-3991

CD Holyoke
May 14, 1970

The Honorable the Board of County Commissioners
52 State Street
Springfield, Massachusetts

Gentlemen:

Re: Bray Lake Dam
Mt. Tom Reservation

The undersigned has made an inspection of the small road surface failure at the above subject dam and has noted that the failure has occurred directly above the twin tubes of the old spillway facility. This break is related to the depression formed on the surface of the dam embankment and noted in my report of December 8, 1969. At that time, the report pointed out that the depression was quite evident at the edge of the road and was then extending under the roadway pavement. It was my opinion that the depression would continue to widen and deepen and the road would settle to a point where pavement failure would probably occur.

Previous recommendations for preventing further road and embankment damage at the old twin spillway tubes included the construction of a new headwall with a dike-type entrance, to prevent lake water from entering the spillway except at the time of an extreme flood. I felt that as long as water overflowing from the lake did not flow into the old twin spillway tubes, danger of soil displacement in the embankment would be minimized.

In a report of 1968, I pointed out that a new headwall to be constructed should include an overflow lip-type weir about 18" in height above the bottom of the old spillway tubes so that normal flow out of the lake would be prevented from passing thru the tubes. Along with the construction of the new headwall, new concrete spillway tube sections would be incorporated into the new headwall to replace the badly rotting corrugated iron tubing from the headwall location to the point where the present deteriorated spillway tubes extend sharply downward. The lower section of each of the tubes would have been patched with concrete.

TIGHE
& BOND CONSULTING ENGINEERS

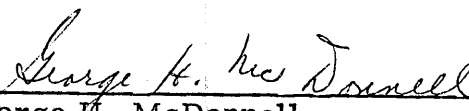
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Apparently, since the last routine inspection of this dam approximately 18 months ago, and two past spring flood conditions, the bottoms of the two culverts have rotted sufficiently and the failure of the headwall has progressed to a point where leakage has started and the cavity formed.

The correct solution to the problem is the complete replacement of the headwall and the two spillway tubes. This should be done at a time when the pond can be emptied or at least lowered to protect the construction area from possible storm flow conditions. Temporary repairs might be made by removing the rotten portions of each culvert invert and digging out the soil thereunder. A concrete patch could then be placed to extend under the original grade of the culverts and to form a new invert.

The undersigned would be pleased to meet with you or with your Reservation personnel if you wish to discuss further, the replacement or the repair of these culvert pipes and the headwall. For the safety of the dam, it is the opinion of the undersigned, that this work must be done before the heavy Fall storm run-off conditions occur.

Respectfully submitted,


George H. McDonnell
County Hydraulic Engineer 2

GHM/amd

McLean Reservoir Dam



o Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds.

Abutters	Holyoke City Water Works
City/Town	Holyoke
Dam	McLean Reservoir Dam
Water	McLean Reservoir

HOLYOKE
D10005

MCLEAN RESERVOIR DAM

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

Smith's Ferry Dam aka Schaeffer Dam



1952 Holyoke

Dam at Smith's Ferry on the Connecticut River.

Abutters	Smith's Ferry
City/Town	Holyoke
Dam	Smith's Ferry Dam
Dam	Schaeffer Dam
Name	Schaeffer, Edward G
Water	Connecticut River

November 26, 1952

Mr. Edward G. Schaeffer
Northampton Highway
Smiths Ferry- Holyoke, Mass.

Dear Sir:

In accordance with the provisions of Chapter 253, Section 45 et seq. of the General Laws, Tercentenary Edition, relative to the inspection, condition and safety of the dams of Hampden County, you are hereby advised that your dam located behind your home has been recently inspected by our Engineer, and your attention is called to the following conditions noted and recommendations made by him:

"A fine screen on the spillway is protected from debris by a wooden box baffle built from above water level to near the bed of the pond or dam surface. Care should be exercised to be certain that enough freeway is available under the baffle to allow for maximum run off. Though the fill of the dam is wide, it is a material that will wash out rapidly once it does start to wash. If screens are to be maintained on the spillway, they should be inspected frequently, especially during storms, and an emergency swale spillway should be provided."

Any further information concerning this matter which you may desire will be furnished by this office upon request.

Very truly yours,

COUNTY COMMISSIONERS

By _____
Chairman

Schaeffer Dam, Holyoke

C O P Y

TIGHE & BOND

Consulting Engineers

189 High Street,
Holyoke, Mass.

December 30, 1952

The Hon. Board of County Commissioners
Hampden County Court House
Springfield, Mass.

Gentlemen:-

In reference to a letter sent to your Board by the Bob-Bee Realty Corporation of Easthampton, Mass., dated November 28, 1952, I have contacted the owner of the dam in question and discussed the construction and maintenance of the structure with him.

According to information obtained from various sources, this dam was constructed without filing plans and specifications because it did not have a square mile of drainage area, it was not 10 feet high, and as designed, would not store over one million gallons of water. The owner said that when the dam was built, he discussed the project with the previous county engineer, Mr. Tighe or Bond.

When I inspected this dam this past fall and saw the possibility of the spillway being plugged up because of the use of baffles and screens, I felt that the dam could impound more than a million gallons should the water level rise to the top of the embankment. Since property damage could occur downstream by the sudden loss of this structure, it was felt that precautions should be taken by the owner to prevent the flooding over of the earth embankment.

The owner has agreed to be certain that baffles will not act to obstruct the flow of water over the spillway by proper maintenance and placing of the units. He also states that a concrete cut-off wall was constructed thru natural soil to prevent sudden release of impounded water. This wall is completely buried and cannot be observed by routine inspection.

In reference to a swale or emergency spillway, the owner has agreed that its construction would be possible and practical if it could be built on the natural soil at one end of the dam. He claims that this would put a part of the spillway off of his property however, and he would naturally have to acquire the necessary land or rights in order to do this work.

Very truly yours,

By G. H. McDonnell, County Hydraulic Engineer

C O P Y

December 31, 1952

Ed. G. Schaeffer
Northampton Highway
Smiths Ferry
Holyoke, Mass.

Dear Sir:-

In reference to your letter of November 28, 1952 our engineer has reported to us that after talking to you and reviewing the data on your dam at Smiths Ferry the possible overflowing of the embankment must be prevented and that if your spillway baffles are maintained in such a way as to allow for the unrestricted flow of water through the pond and over the spillway, persons and property downstream will not be endangered.

An emergency swale or trough spillway would be desirable at your structure as a safety device. Serious thought should be given to the inclusion of such a spillway in the near future.

Very truly yours

COUNTY COMMISSIONERS

BY

Chairman

*Smiths Ferry
Holyoke*

Skinner William Dam - Lower



o Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds.

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City/Town Holyoke

Dam	Skinner William Dam - Lower
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Name Skinner, William II

HOLYOKE
D10007

SKINNER WILLIAM DAM - LOWER

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

Skinner William Dam - Upper



o Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds..

City/Town	Holyoke
Dam	Skinner William Dam - Upper
Name	Skinner, William II

HOLYOKE
D10008

SKINNER WILLIAM DAM - UPPER

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

Whiting Street Intake Dam



o Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds. See also: County Highways records.

Abutters	Holyoke City Water Works
City/Town	Holyoke
Dam	Whiting Street Intake Dam
Streets	Whiting Street

HOLYOKE
D10009

WHITING STREET INTAKE DAM

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

Whiting Street Reservoir Dam



o Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds. See also: County Roads Plan #10 (1963) "Farm Pond Dam - Cherry Street - YMCA".

City/Town	Holyoke
Dam	Whiting Street Reservoir Dam
Water	Whiting Street Reservoir

HOLYOKE
D10010

WHITING STREET RESERVOIR DAM

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

Zenner Dam



o Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds.

City/Town Holyoke

Dam Zenner Dam

Name Zenner

HOLYOKE
D10011

ZENNER DAM

NO IMAGE ON FILE FOR THIS RECORD

(INFORMATION EXISTS ONLY ON A FILE CARD FROM THE
OFFICE OF THE FORMER HAMPDEN COUNTY ENGINEER.)

Cote Dam



1933 Holyoke

Also see: Dam Report Section - Holyoke & Holyoke Water Works Deeds.

City/Town	Holyoke
Dam	Cote Dam
Name	Cote, Louis
Water	Tannery Brook

April 26, 1933

Mr. Louis Cote Jr.,
Lower Westfield Road,
Holyoke, Mass.

Dear Sir:

In accordance with the provisions of Section 45 of Chapter 253 of the General Laws as amended by Chapter 334 of the Acts of 1923 and as further amended by Chapter 178 of the Acts of 1924 relative to the inspection, condition and safety of the dams of Hampden County, you are notified that your dam, located on Ternery Brook so called in the City of Holyoke, has been inspected by our engineer and your attention is called to the following conditions noted and recommendations made by him;

"The top of the embankment is very uneven and in some places is but little above the level of the flashboards. The whole top of the embankment should be filled and leveled up to a height of at least four feet above the permanent spillway crest. Until this work is done the flashboards should be removed from the spillway."

Now, therefore, in accordance with Section 46 of said Chapter 253, it is ordered that the above recommendations be complied with in a reasonable length of time.

Any further information concerning this matter which you may desire will be furnished by this office upon request.

Yours very truly,

COUNTY COMMISSIONERS

By _____
Chairman.



End of Book D10 ~ Dams ~ City of Holyoke